

FIG.1

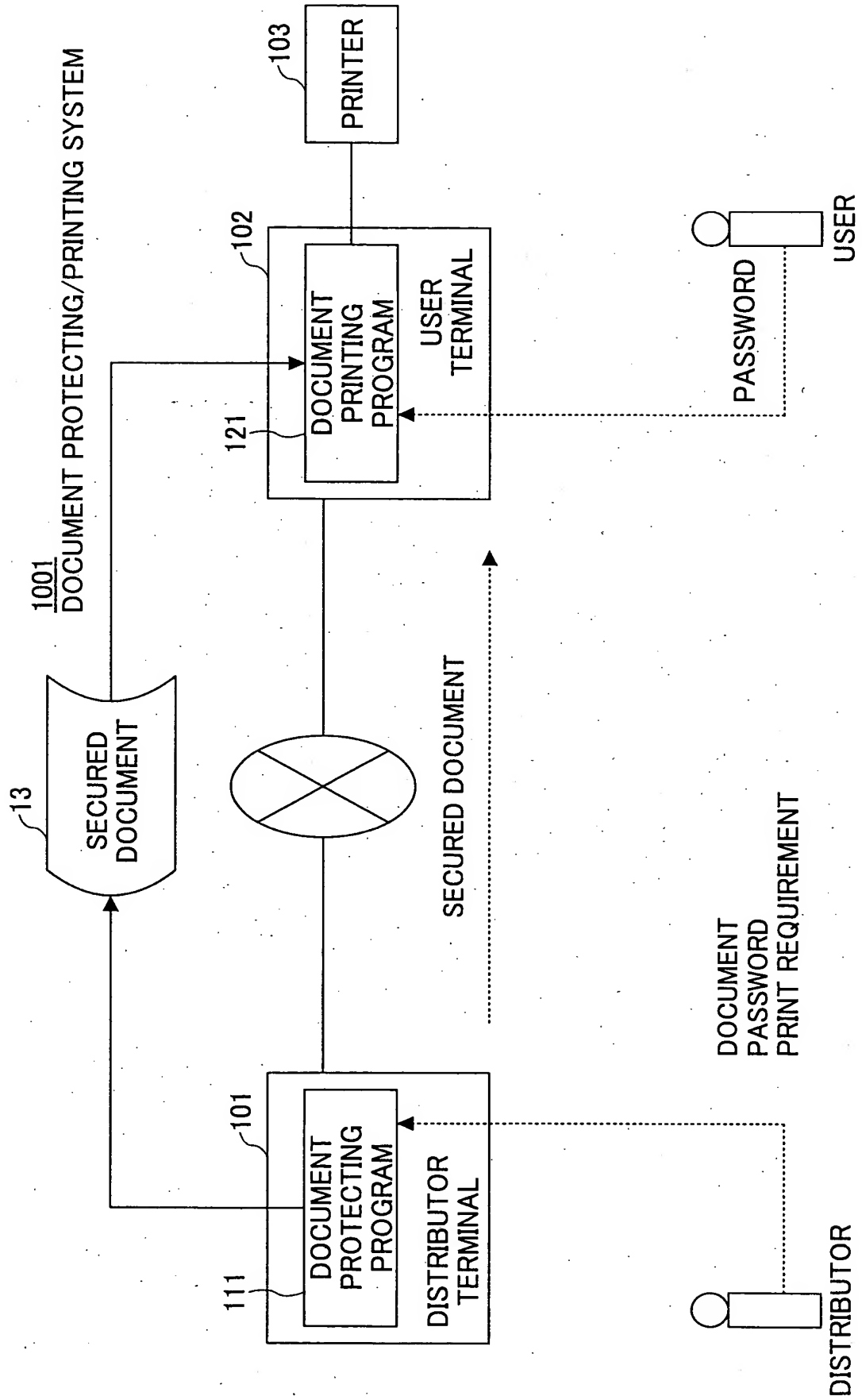


FIG.2

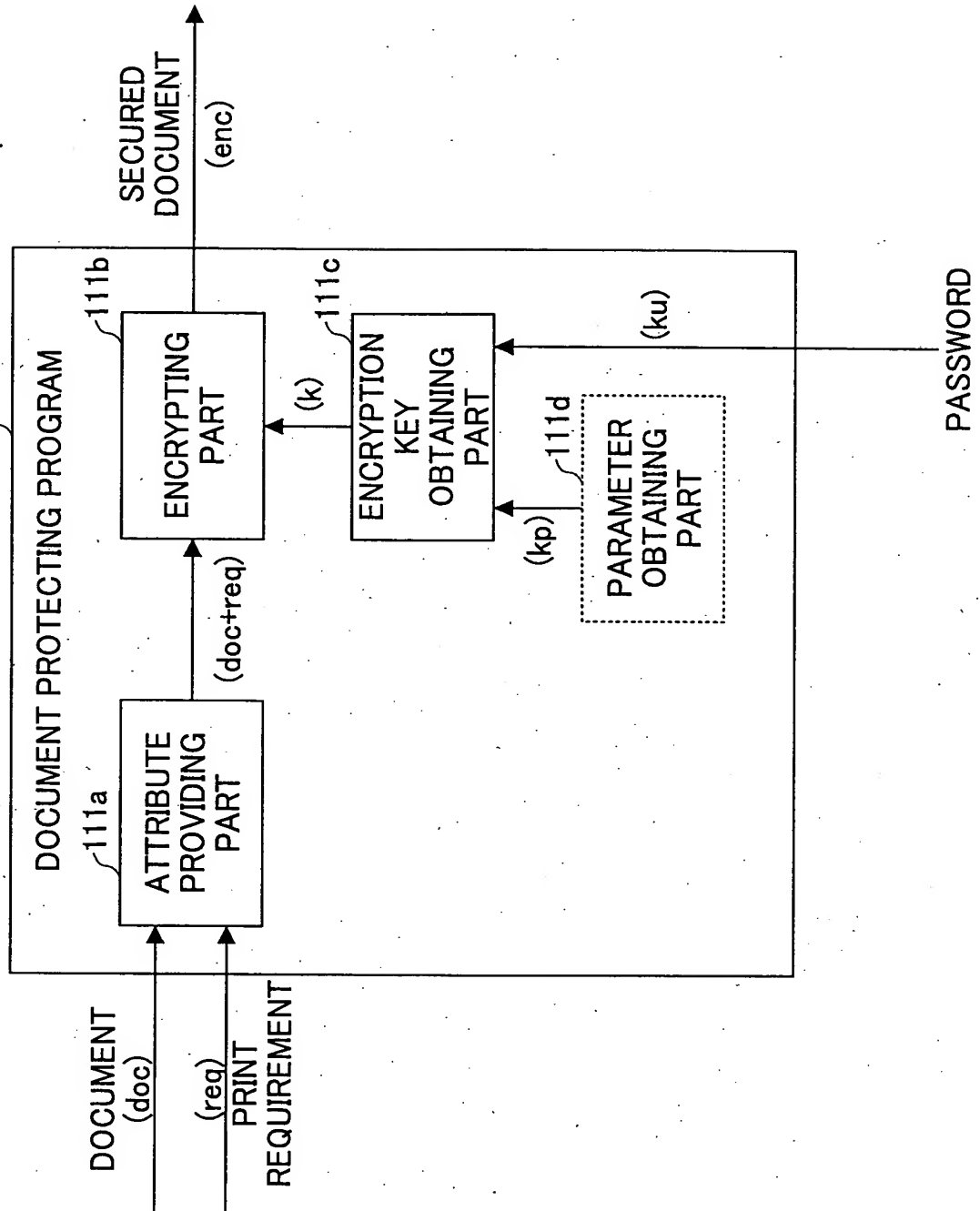


FIG.3

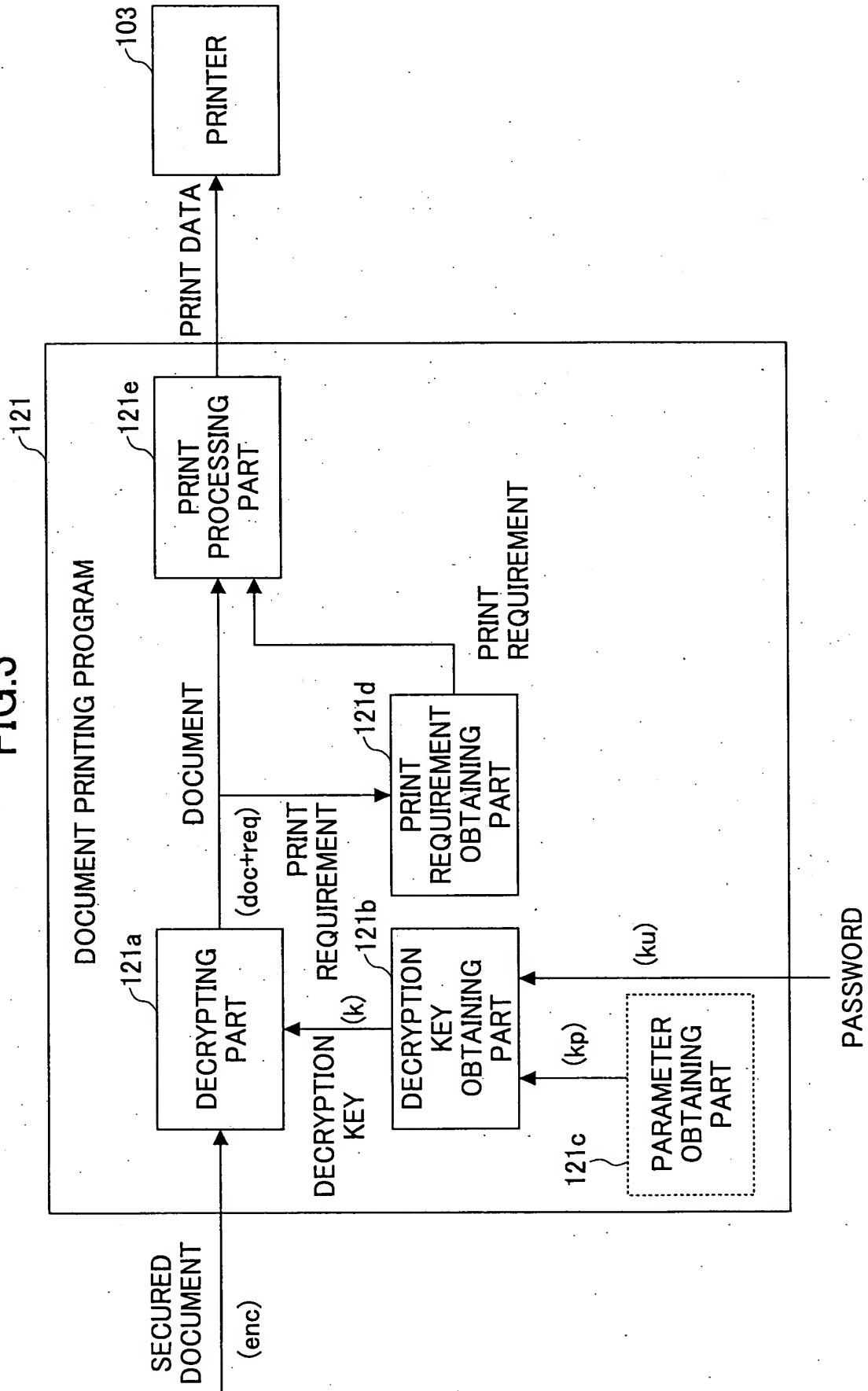


FIG.4

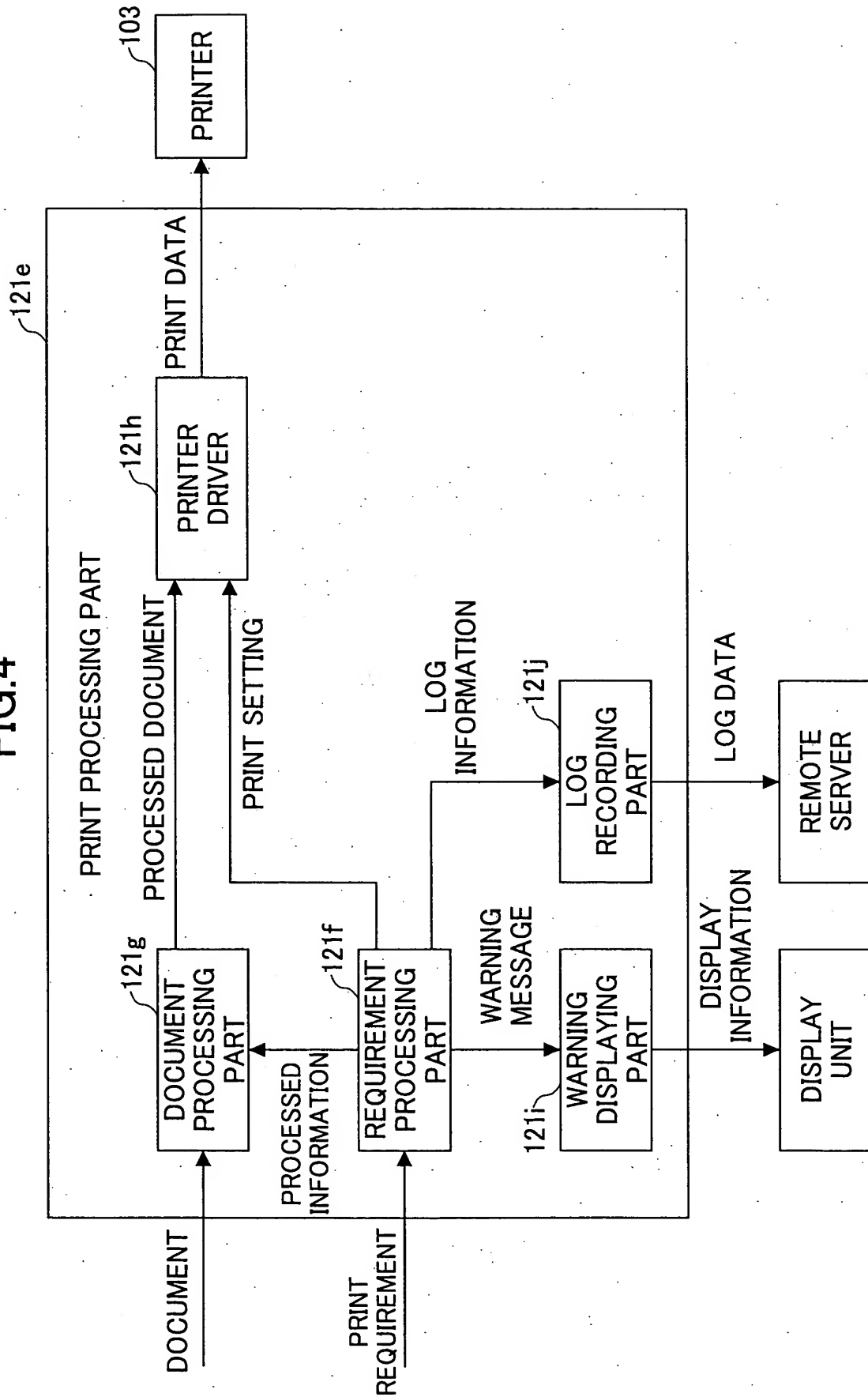


FIG.5

PASSWORD:	*****
PRINT SECURITY:	
ALLOW TO PRINT	<input checked="" type="checkbox"/>
UNDER	
PRIVATE ACCESS	<input type="checkbox"/>
SECURITY LABEL STAMP	<input type="checkbox"/>
DIGITAL WATERMARK	<input checked="" type="checkbox"/> CONFIDENTIAL
BACKGROUND DOT PATTERN	<input type="checkbox"/>
FILE:	C: ¥My Documents¥sample.doc
	REFER
ENCRYPT	



FIG.7

PASSWORD

「poster1.pdf」 IS SECURED.

PASSWORD:

OK CANCEL

FIG.8

PRINT SECURITY	PRINTER
THE FOLLOWING PRINT REQUIREMENT(S) IS(ARE) INDICATED TO THIS DOCUMENT.	THE FOLLOWING PRINTERS ARE AVAILABLE TO PROCESS THE PRINT REQUIREMENT(S).
<div>PRIVATE ACCESS DIGITAL WATERMARK</div>	<div>Network Printer A Network Printer B Local Printer E</div>
<div>PRINT</div> <div>CANCEL</div>	



FIG.9

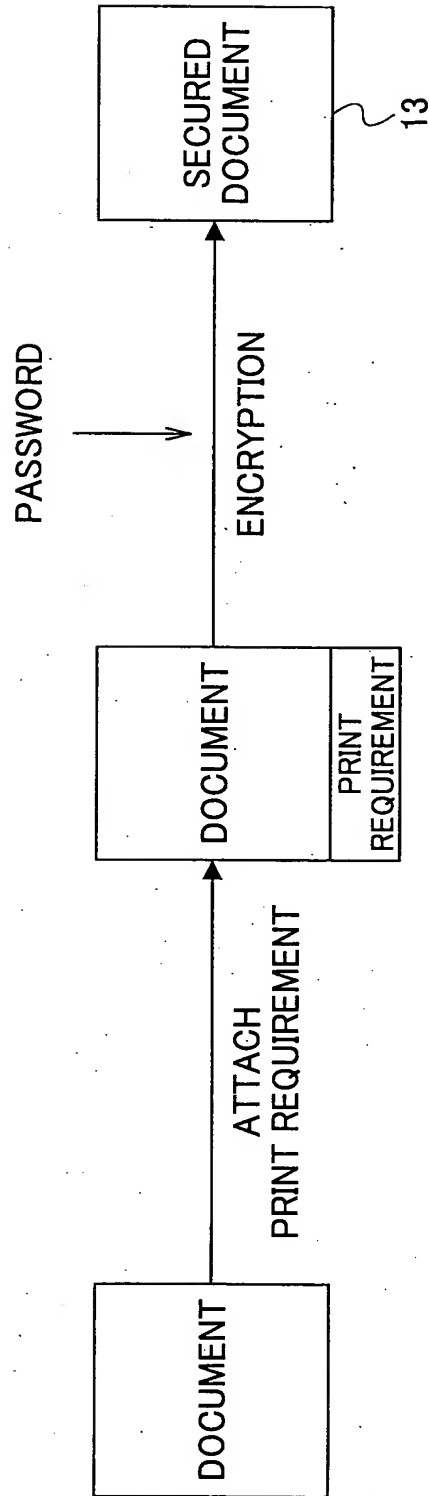


FIG.10

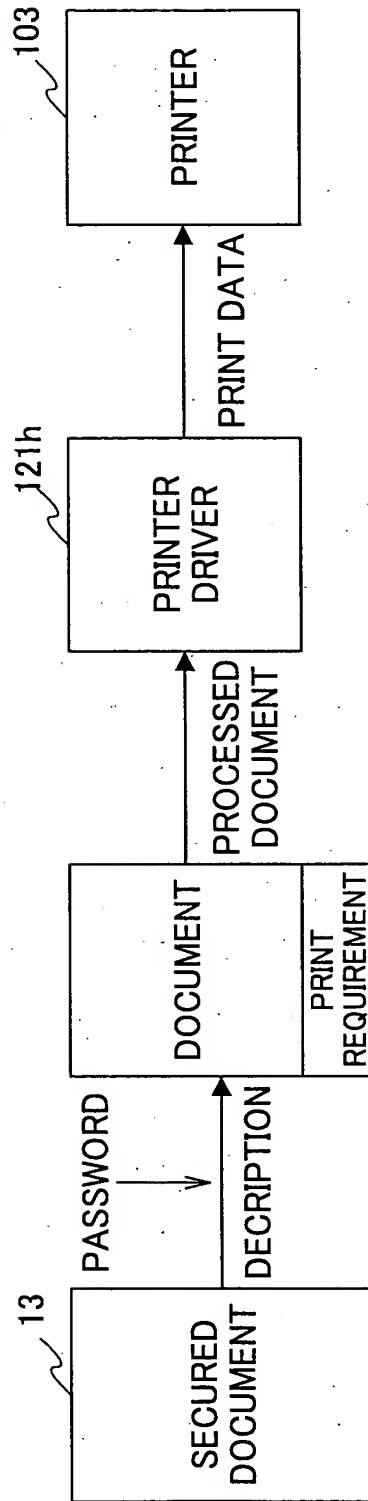


FIG.11

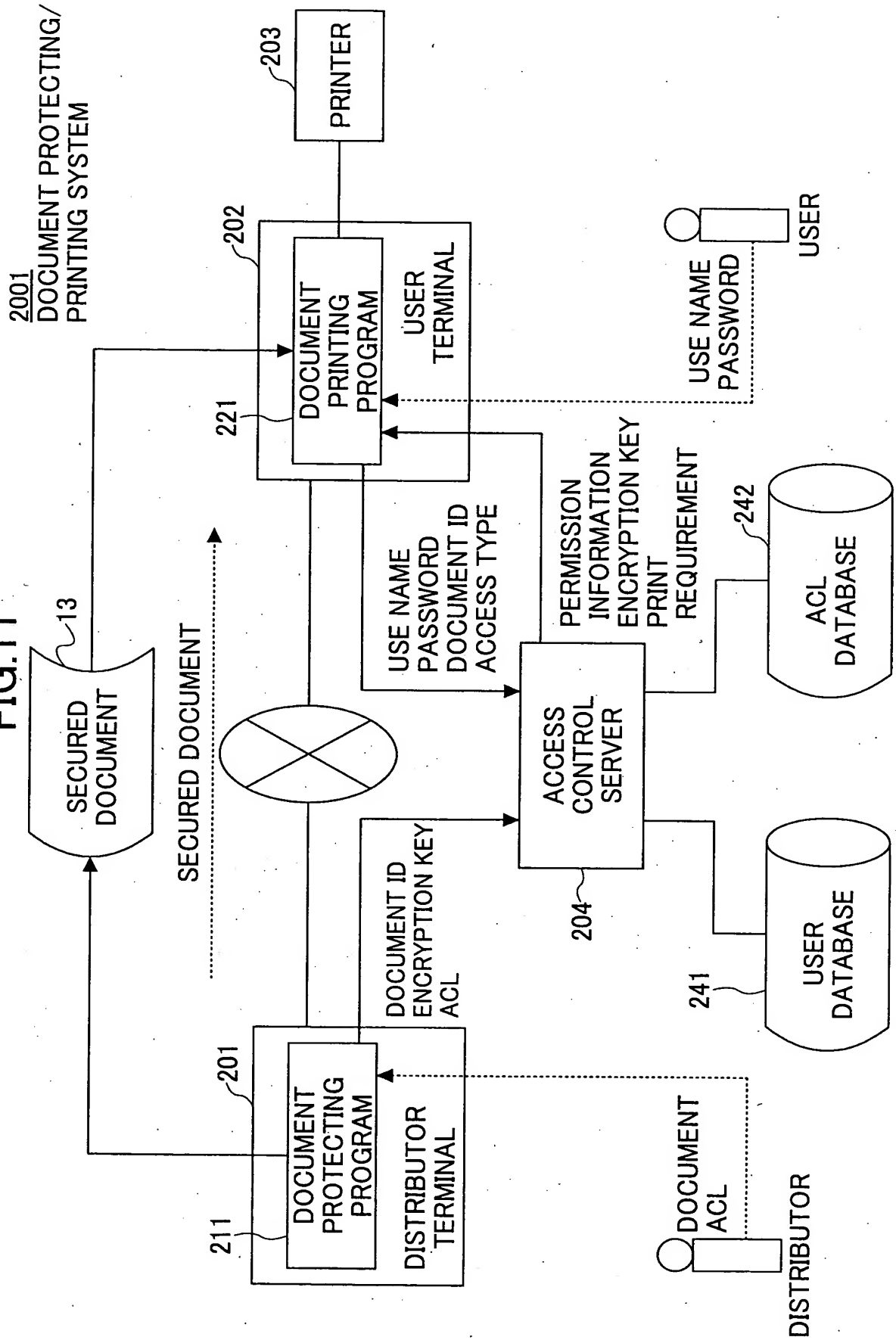


FIG.12

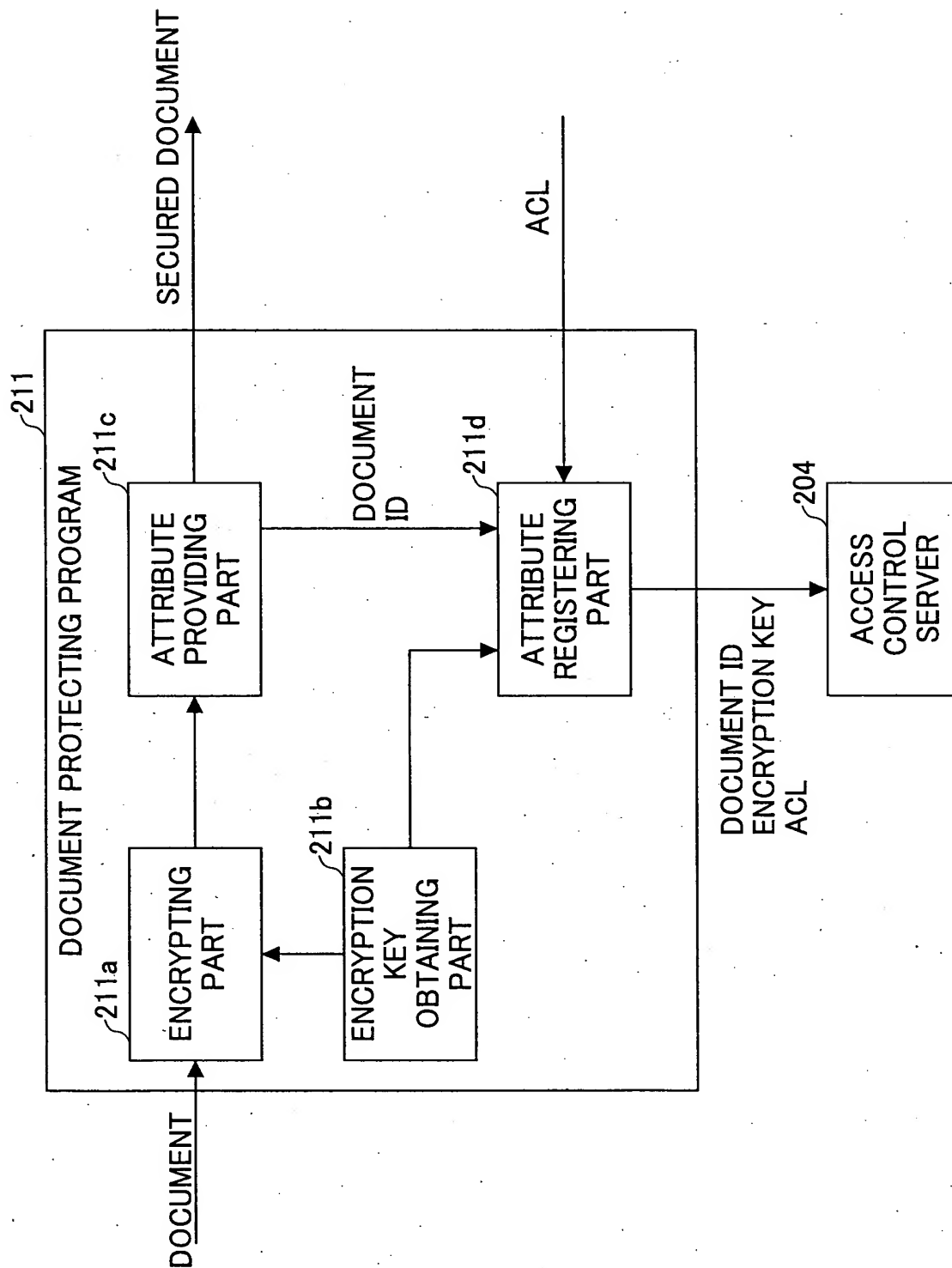


FIG.13

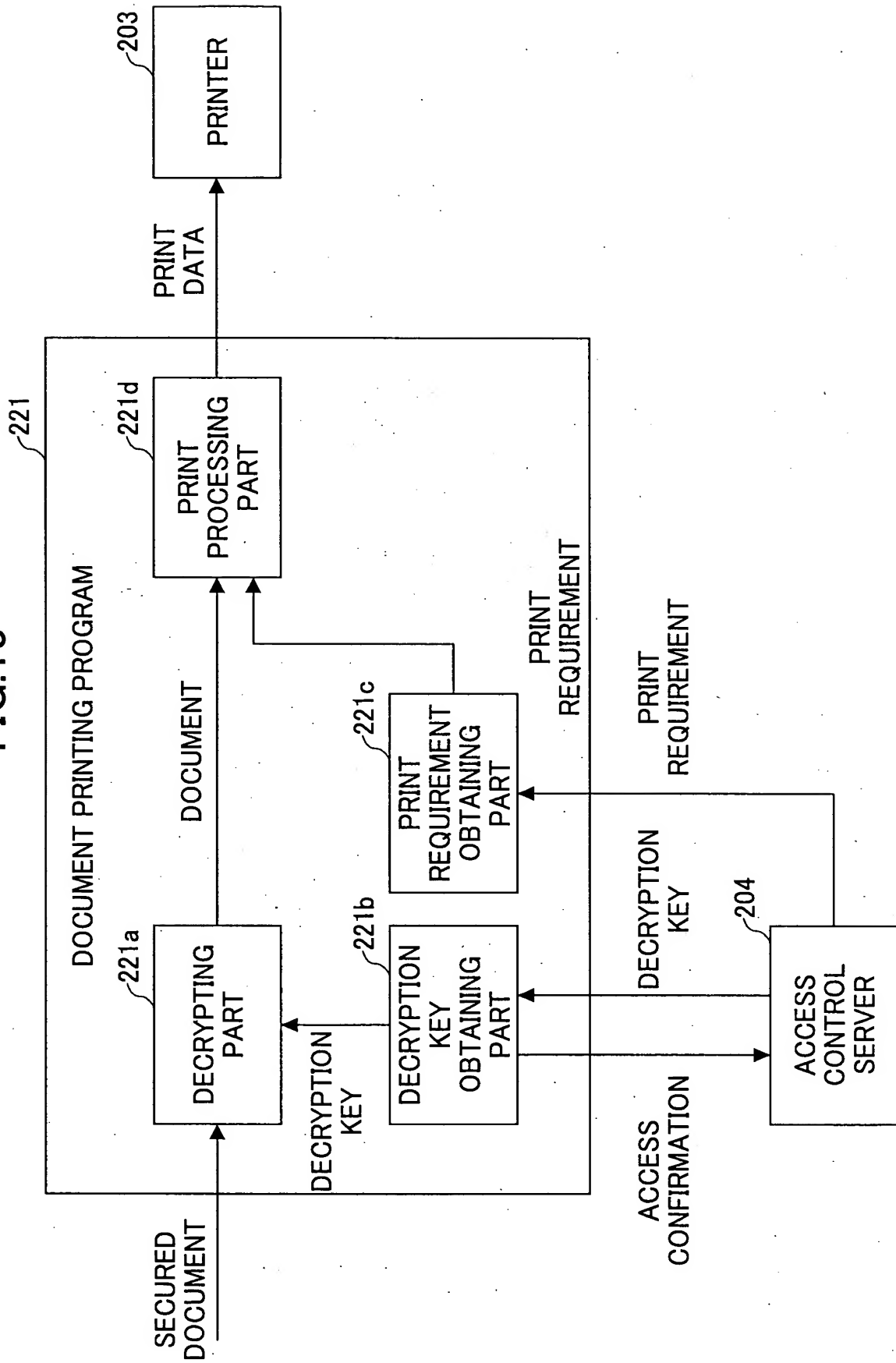


FIG.14

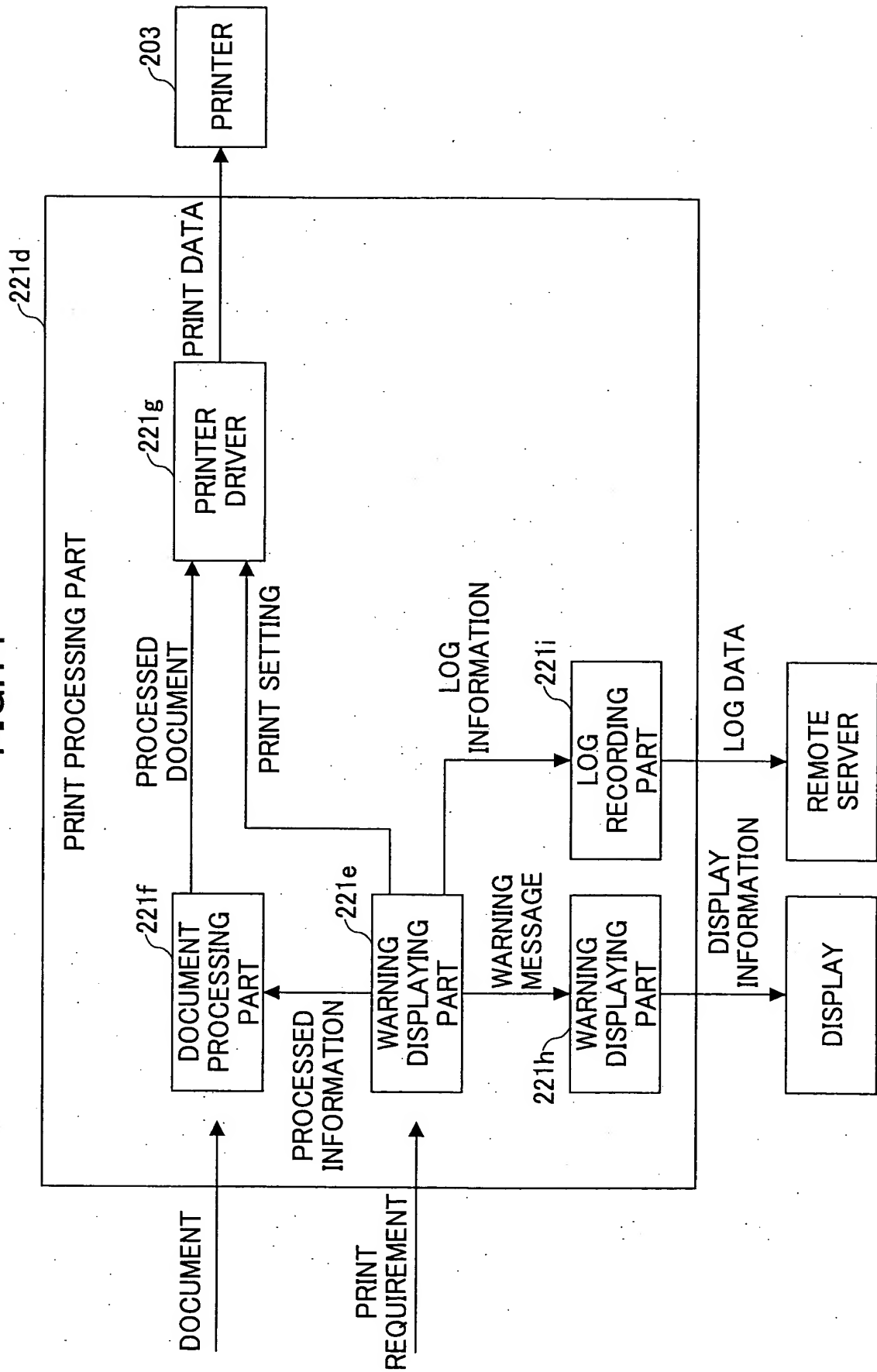


FIG.15

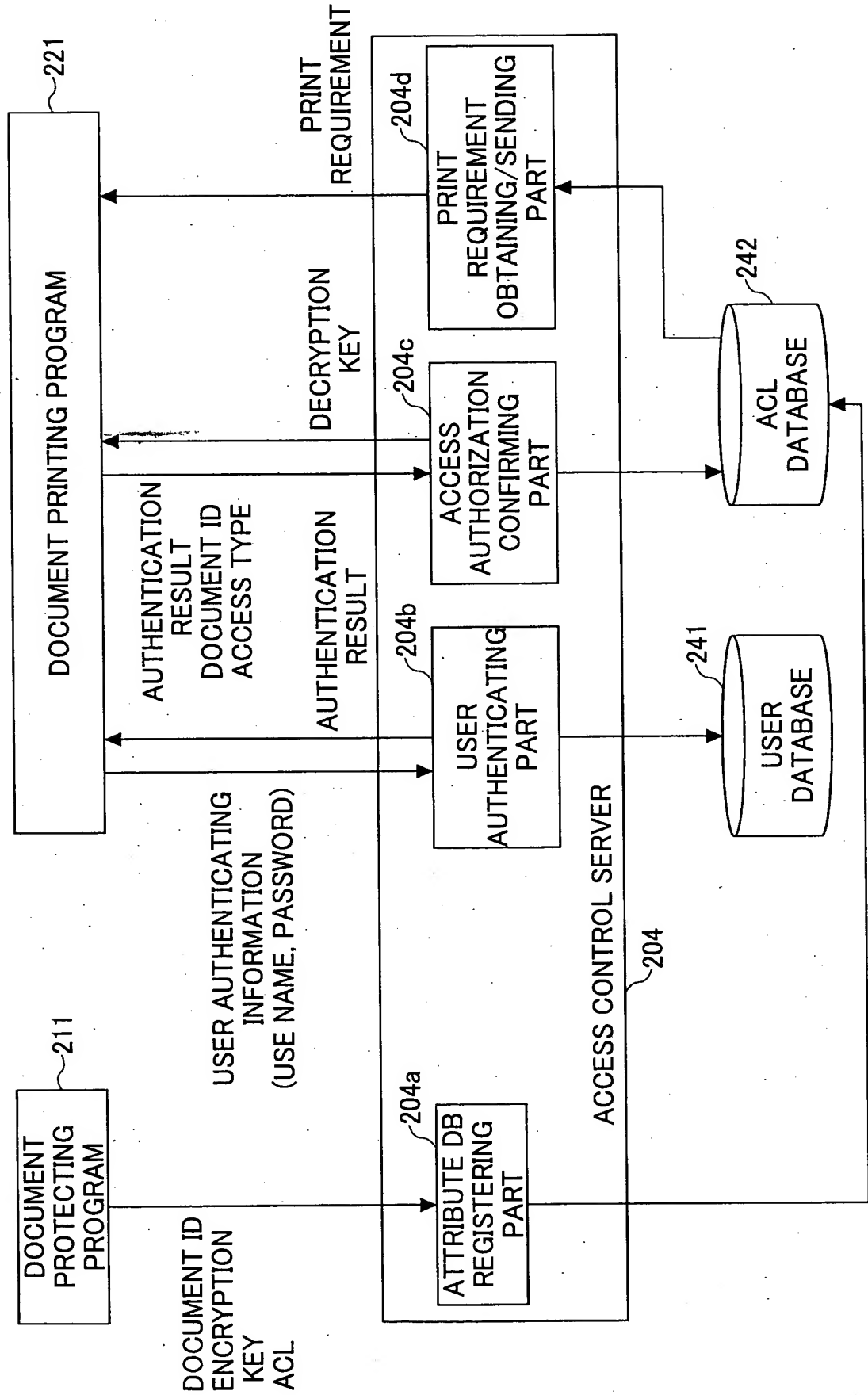


FIG.16

User name	Access type	Permission	Requirement
Ichiro	Read	Allowed	—
	Write	Denied	—
	Print	Allowed	PAC(Private Access)
			BDP(Background Dot Patten)
			EBC(Embedding BarCode)
	Hardcopy	Allowed	RAD(Record Audit Date)
Taro	Read	Allowed	—
	Write	Denied	—
	Print	Denied	—
	Hardcopy	Denied	—
⋮			



FIG.17

Document ID	Key	ACL
133.139.234.23.22.125.98.192	89FECA8D2B	(binary data)
133.139.234.23.22.125.99.105	A73C44DA59	(binary data)

FIG.18

ACCESS CONTROL LIST

GROUP NAME OR USER NAME

GROUP: Administrators  
GROUP: FIRST DESIGN MEMBER  
USER: taro.yamada  
USER: hanako.tanaka

ADD

DELETE

ACCESS ALLOWANCE OF  
taro.yamada

ALLOWED REQUIREMENT

FULL CONTROL	<input type="checkbox"/>	<input type="checkbox"/>
UPDATE	<input type="checkbox"/>	<input type="checkbox"/>
PRINT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
READ	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PRINT REQUIREMENT INDICATION SUPPLEMENT INFORMATION

PRIVATE ACCESS ☐

SECURITY LABEL STAMP ☐

DIGITAL WATERMARK ☒

BACKGROUND DOT PATTERN ☐

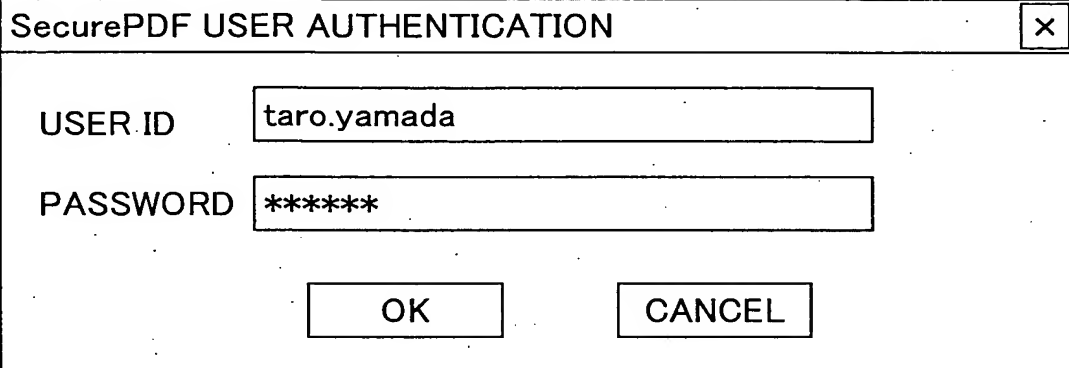
CONFIDENTIAL

FILE: C: ¥My Documents¥sample.doc

REFER

ENCRYPT

FIG.19



A screenshot of a software dialog box titled "SecurePDF USER AUTHENTICATION". The dialog box has a standard Windows-style title bar with a close button (X) in the top right corner. Inside the dialog, there are two input fields. The first is labeled "USER ID" and contains the text "taro.yamada". The second is labeled "PASSWORD" and contains seven asterisks "\*\*\*\*\*". Below these fields are two buttons: "OK" and "CANCEL".

SecurePDF USER AUTHENTICATION	
USER ID	taro.yamada
PASSWORD	*****
<div>OK CANCEL</div>	

FIG.20

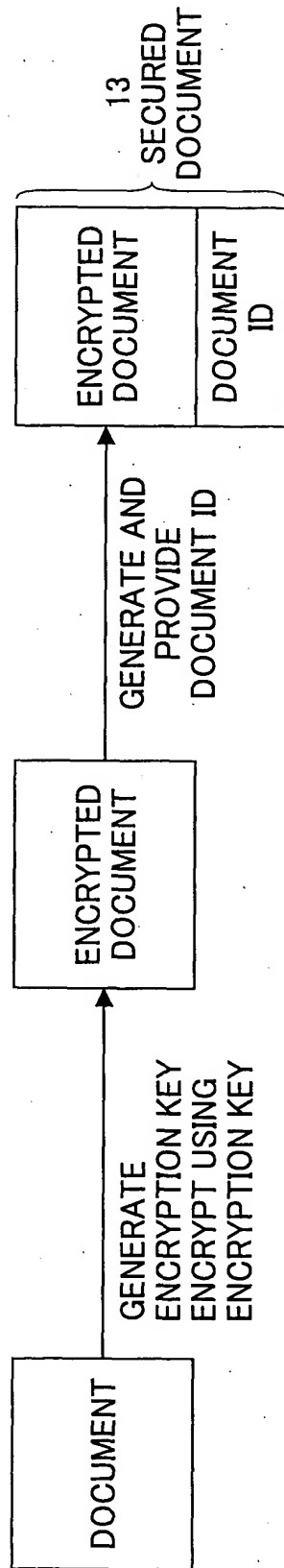
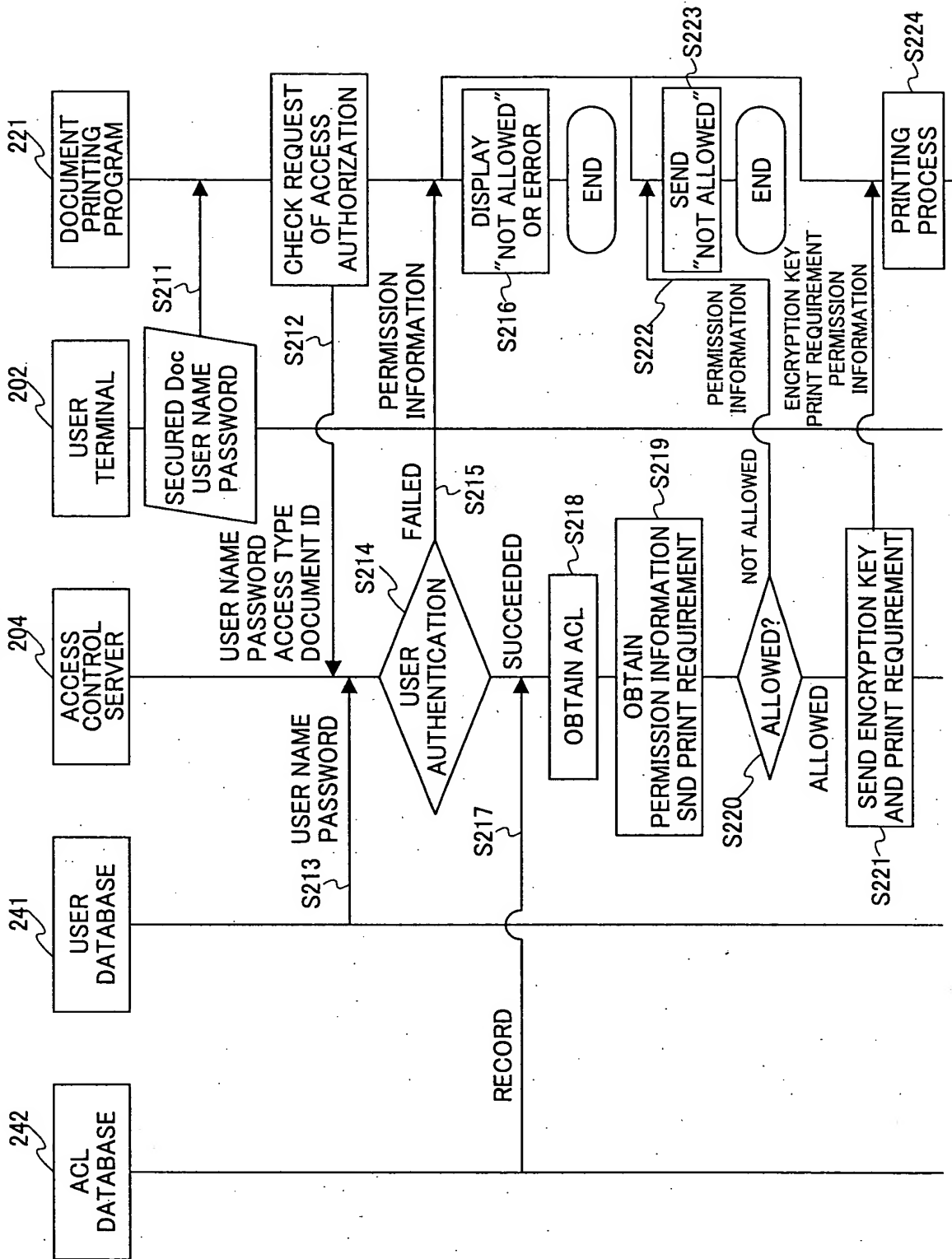


FIG.21



## FIG.22

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```
<?xml version="1.0" encoding="UTF-8" ?>
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
  s:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/">
  <s:Body>
    <m:isAllowed xmlns:m="http://sample.com/sample">
      <sessionId>adfklajioewomads</sessionId>
      <userId>taro.yamada</userId>
      <docId>shm0000000000003</docId>
      <accessType>print</accessType>
    </m:isAllowed>
  </s:Body>
</s:Envelope>
```

292

```
<?xml version="1.0" encoding="UTF-8" ?>
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
  s:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/">
  <s:Body>
    <m:isAllowedResponse xmlns:ns1="http://sample.com/sample">
      <isAllowedReturn>
        <allowed xsi:type="xsd:boolean">true</allowed>
        <requirements>
          <item>
            <requirement>private_access</requirement>
          </item>
          <item>
            <requirement>watermark</requirement>
          </item>
          <supplement>CONFIDENTIAL</supplement>
        </item>
        </requirements>
      </isAllowedReturn>
    </m:isAllowedResponse>
  </s:Body>
</s:Envelope>
```

FIG.23

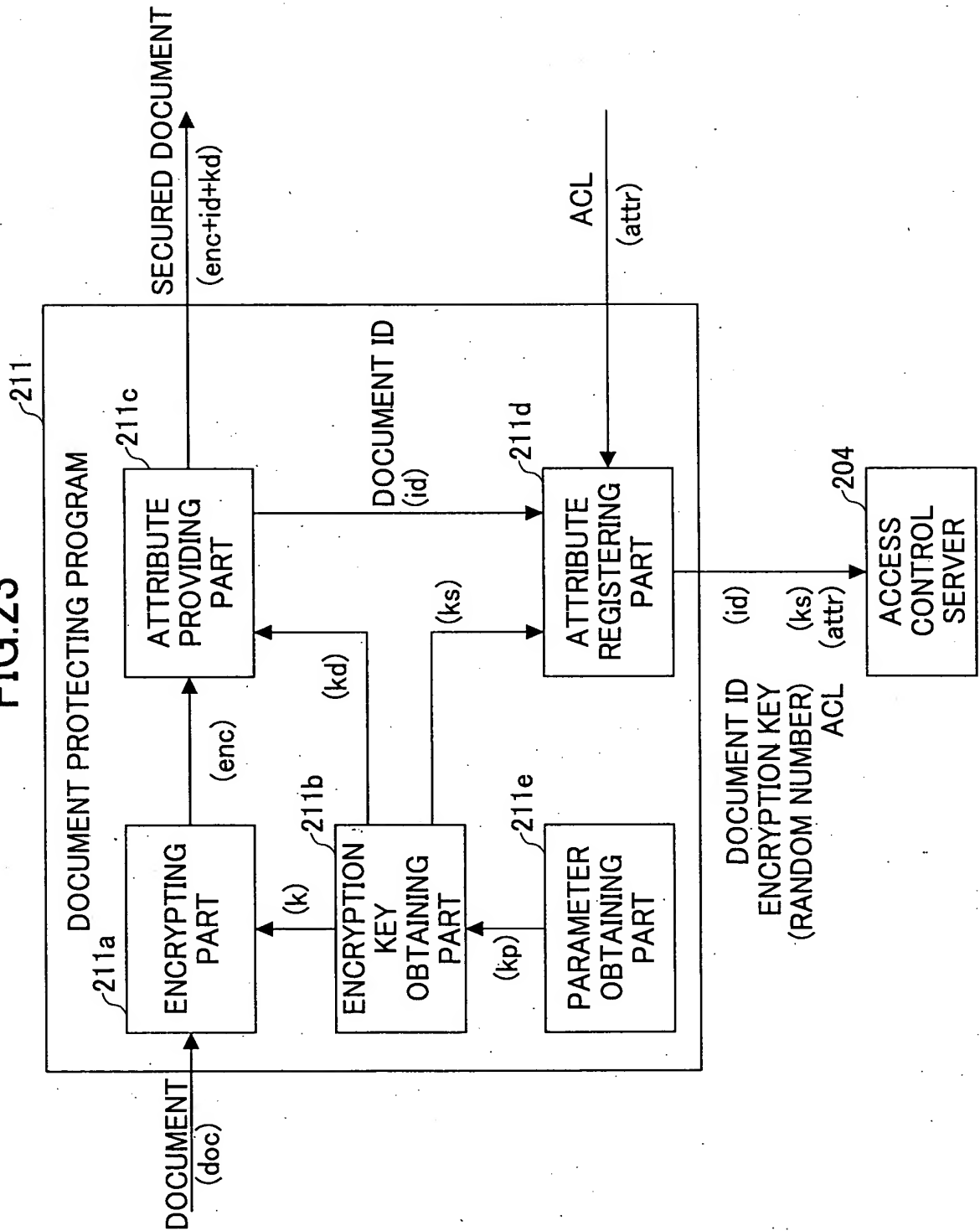


FIG.24

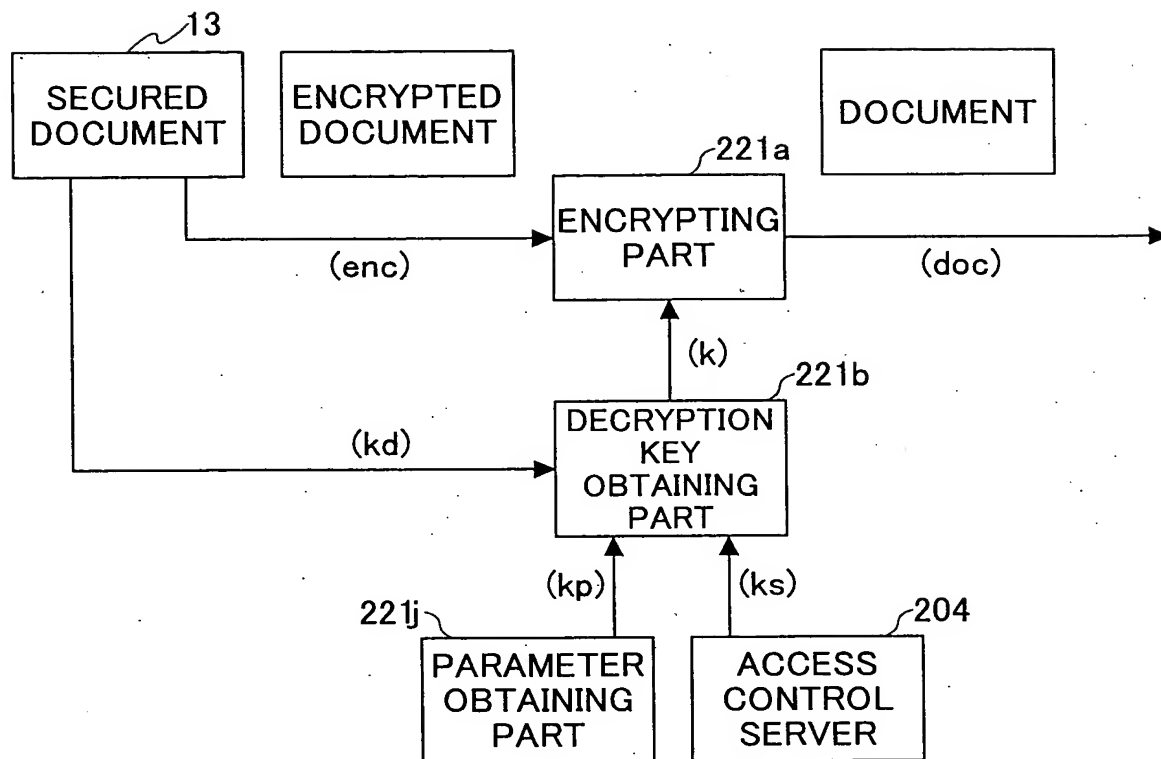




FIG.25

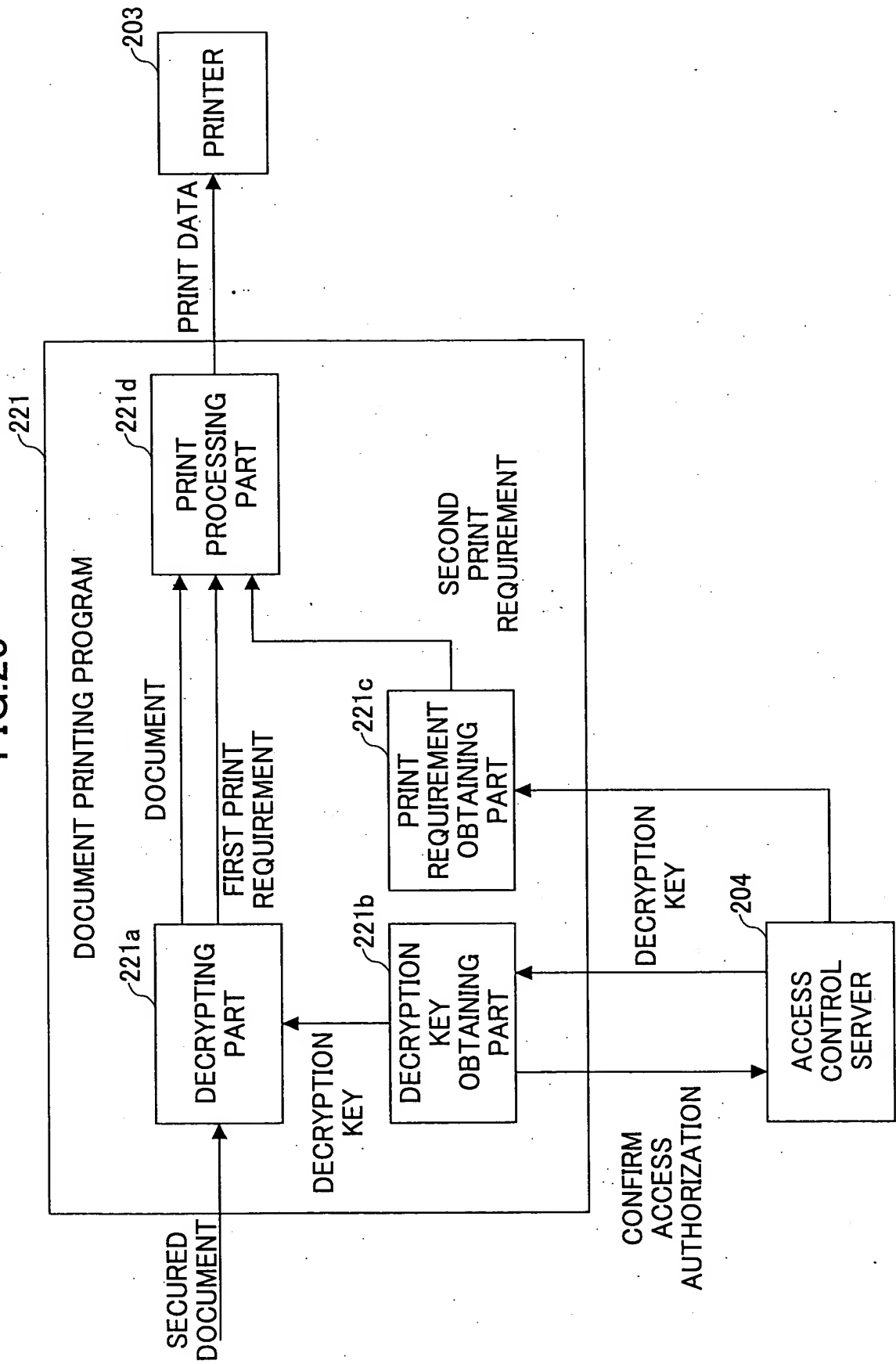


FIG.26

PRINT SECURITY FUNCTIONS

SECURITY LABEL STAMP	FUNCTION FOR PRINTING BY OVERLAPPING MANUSCRIPT WITH A MARK SHOWING "SECRET" AS STAMP OR WATERMARK AT GIVEN LOCATION IN PAGE. BITMAP IMAGE OR CHARACTER STRING SUCH AS "SECRET", "CONFIDENTIAL", OR A LIKE CAN BE USED AS STAMP.
BACKGROUND DOT PATTERN	FUNCTION FOR PRINTING BY OVERLAPPING MANUSCRIPT WITH BACKGROUND IMAGE THAT IS CONTROLLED SO THAT THE A SPECIAL IMAGE IS RAISED WHEN COPIER COPIES. IN GENERAL, IMAGE INDICATED AS STAMP IN ABOVE STAMP FUNCTION IS USED TO BE BACKGROUND IMAGE.
PRIVATE ACCESS	FUNCTION FOR PRINTING OUT UNTIL USER COMES TO PRINTER AND INPUTS PIN (PERSONAL IDENTIFICATION NUMBER) TO OPERATION PANEL OF PRINTER IF USER INDICATES PIN TO PRINTER DRIVER WHEN INDICATING TO PRINT OUT

FIG.27

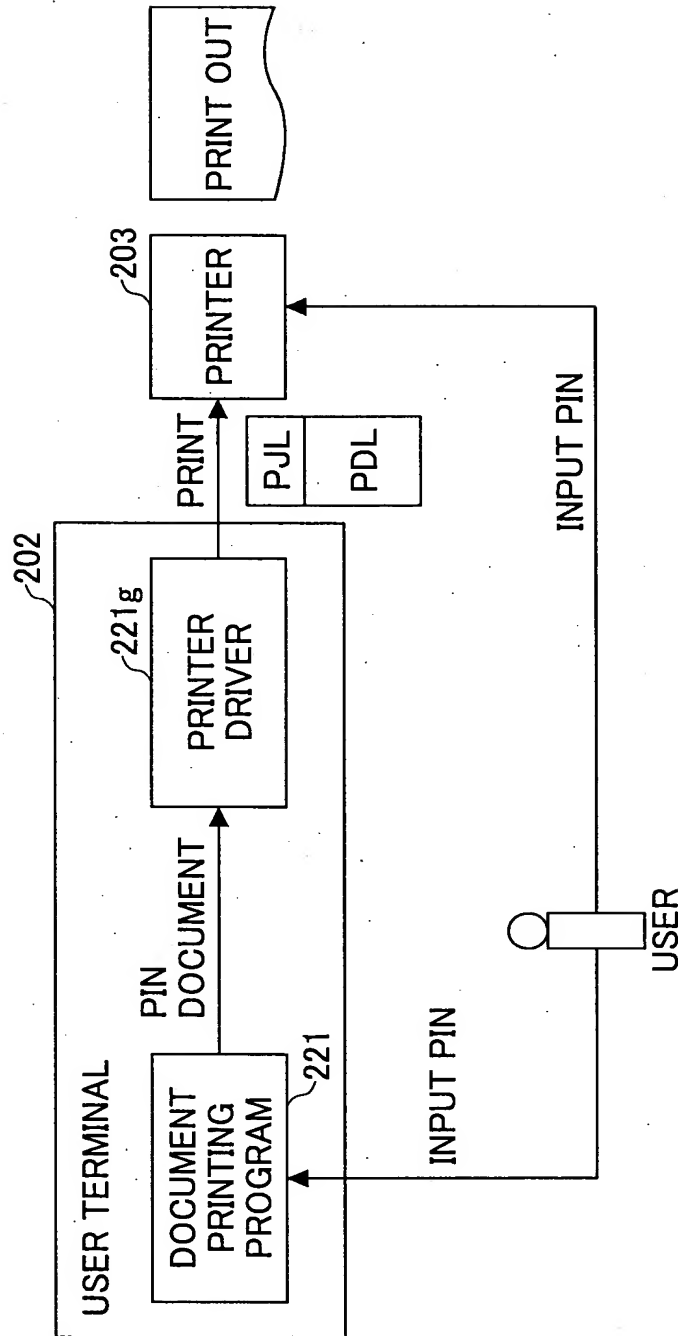


FIG.28

**PRINT DIALOG**

PRINTER  
PRINTER NAME  PROPERTY

STATUS: REGULAR PRINTER: ONLINE  
TYPE: ●●●●●●

PRINT RANGE  
☒ ALL PAGES  
☐ CURRENT PAGE  
☐ PAGE RANGE

FROM  TO

COPIES

**PIN INPUT DIALOG**

PRIVATE ACCESS IS CONDUCTED  
SINCE THIS IS PRIVATE (SECRET) DOCUMENT.  
PLEASE INPUT PASSWORD TO THE PRINTER TO  
PRINT OUT THIS DOCUMENT.

PASSWORD

OK CANCEL

FIG.29

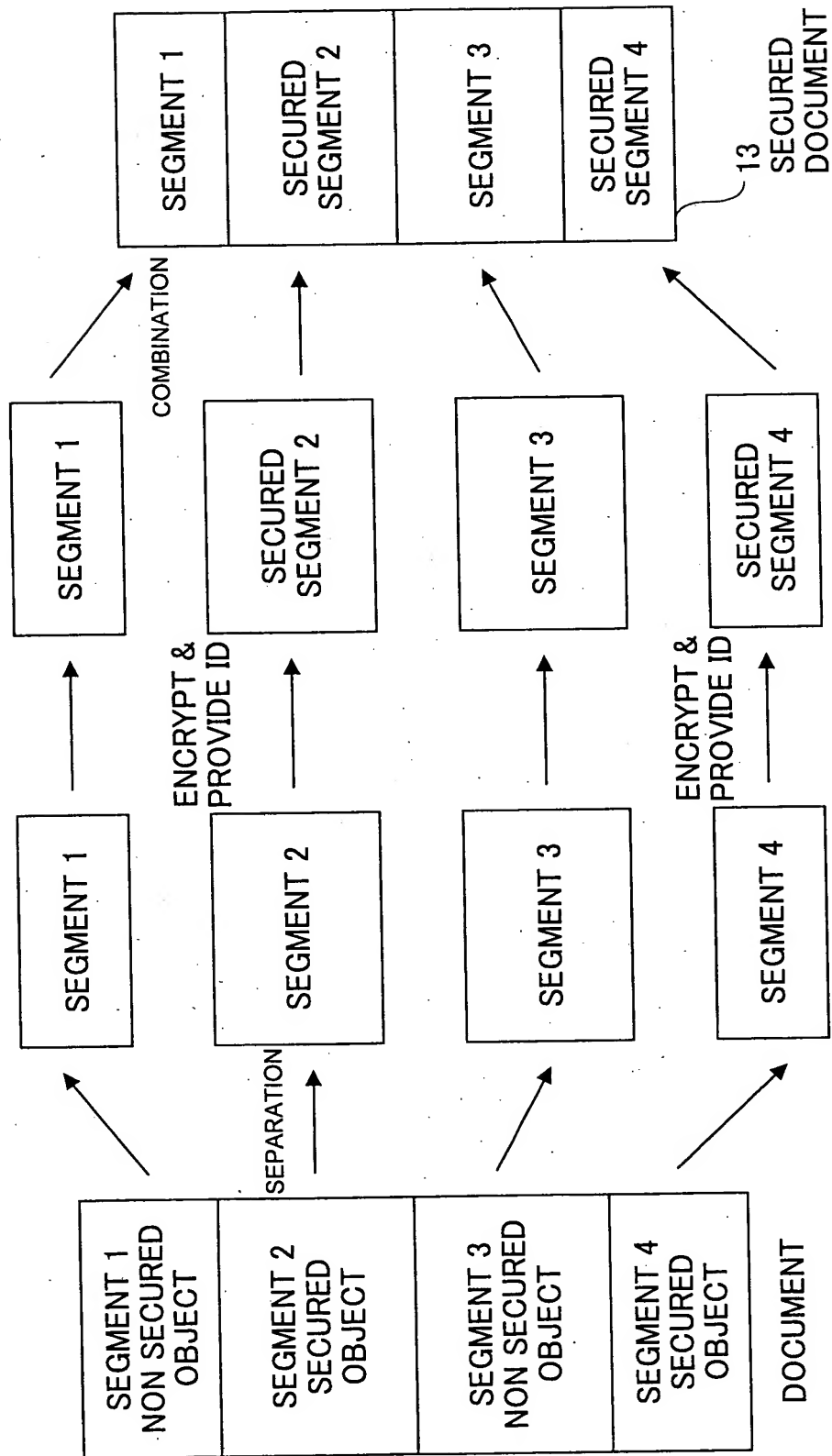


FIG.30

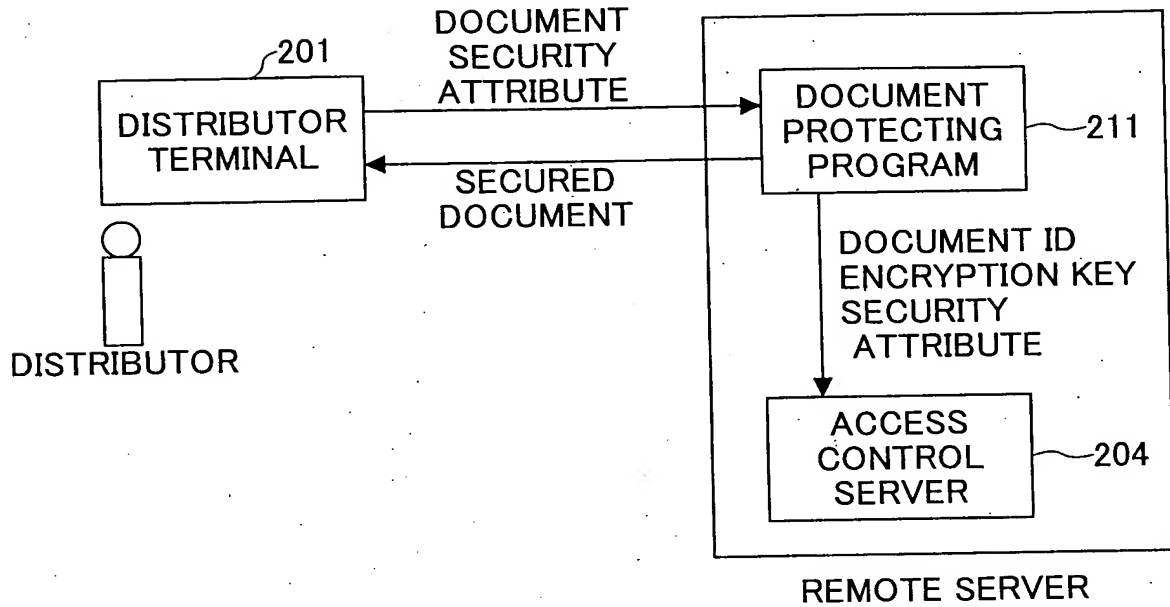


FIG.31

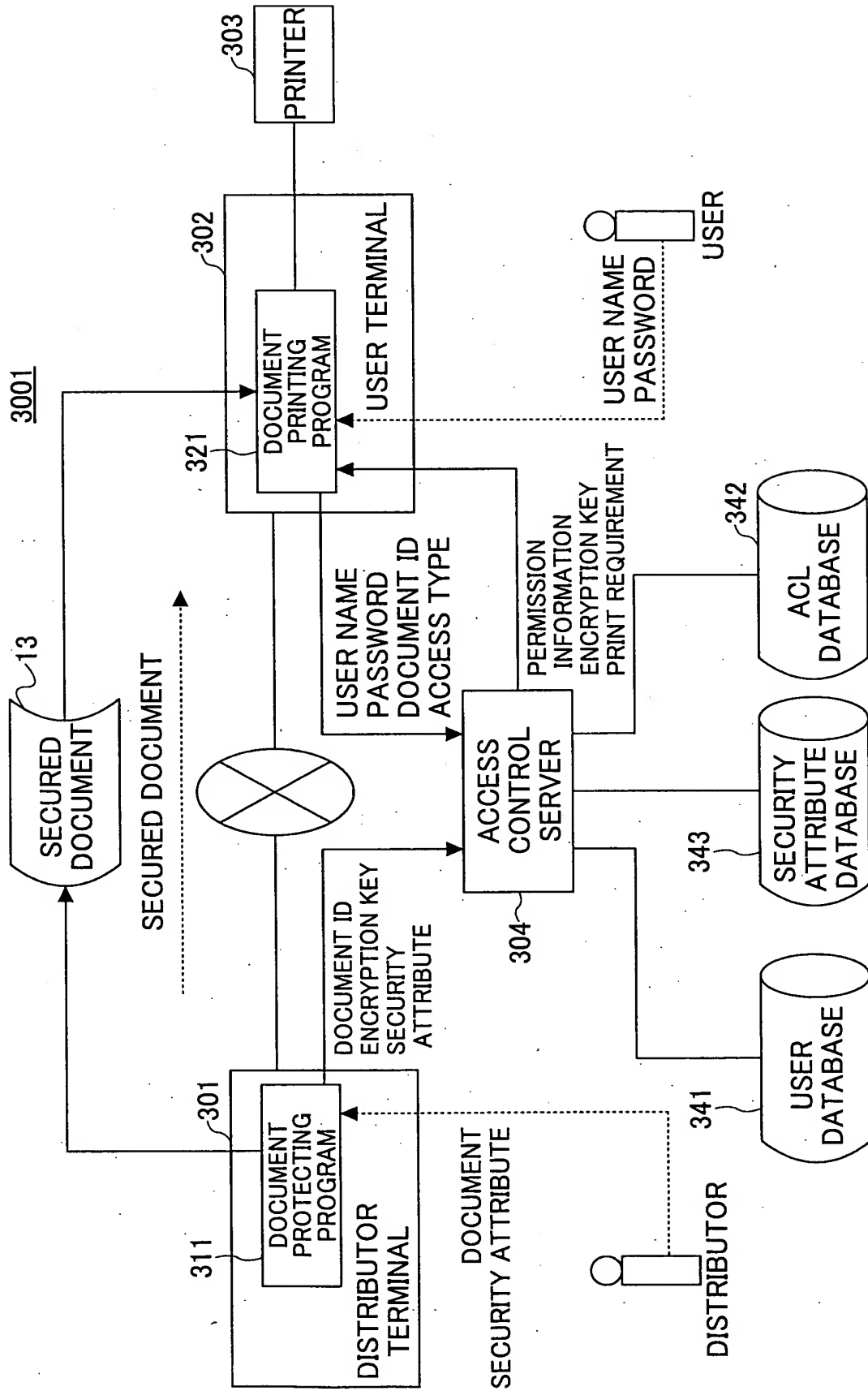


FIG.32

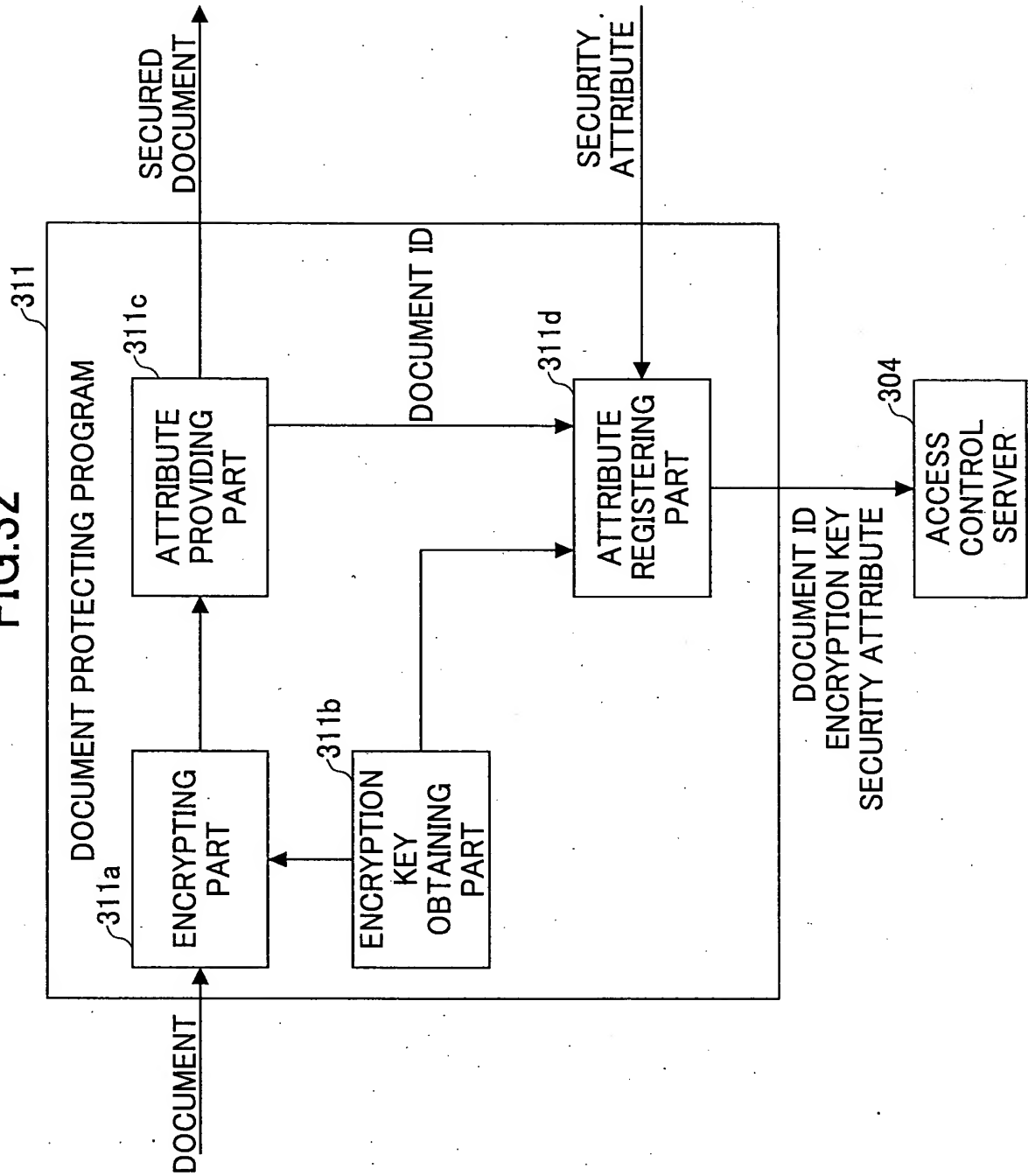




FIG.33

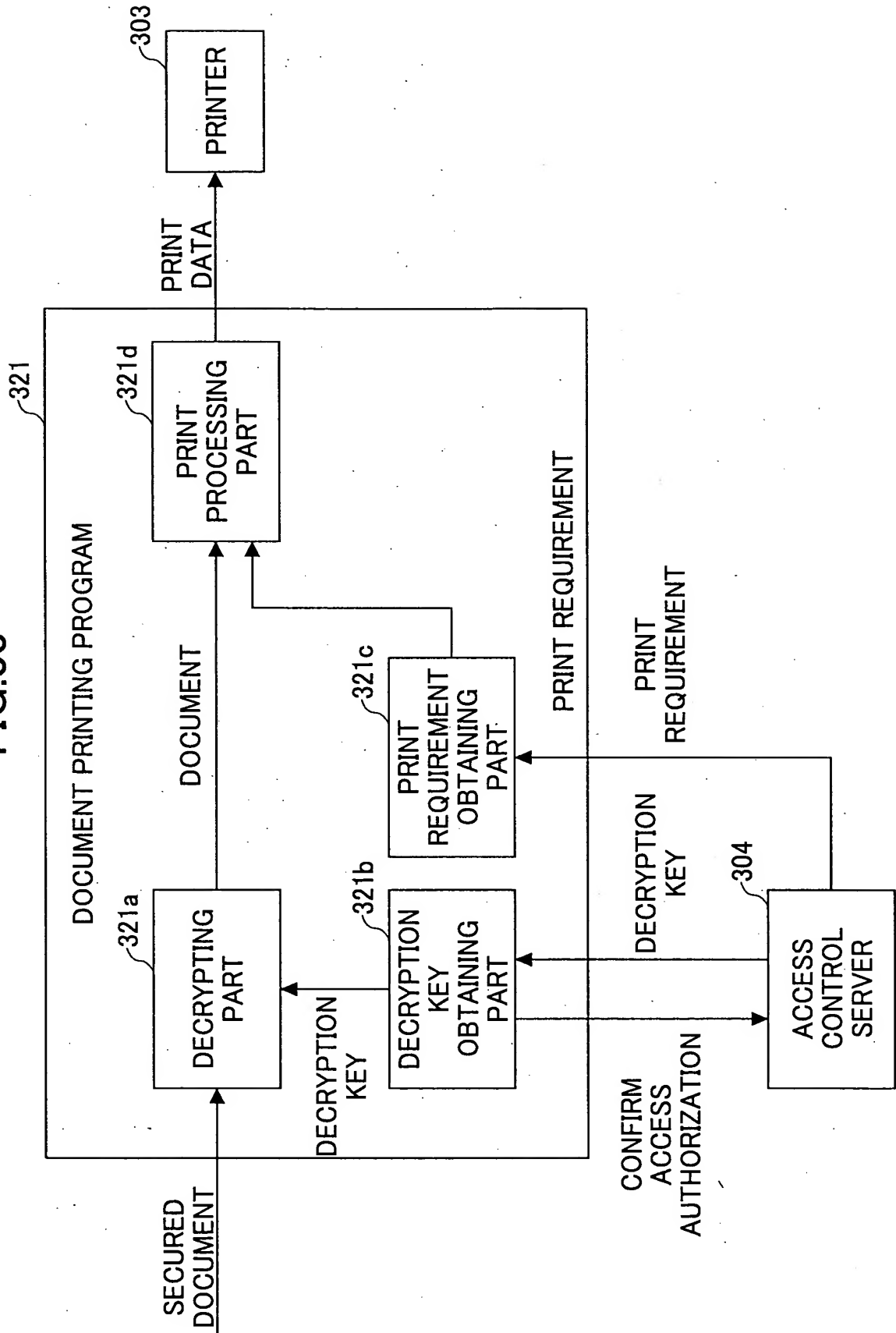


FIG.34

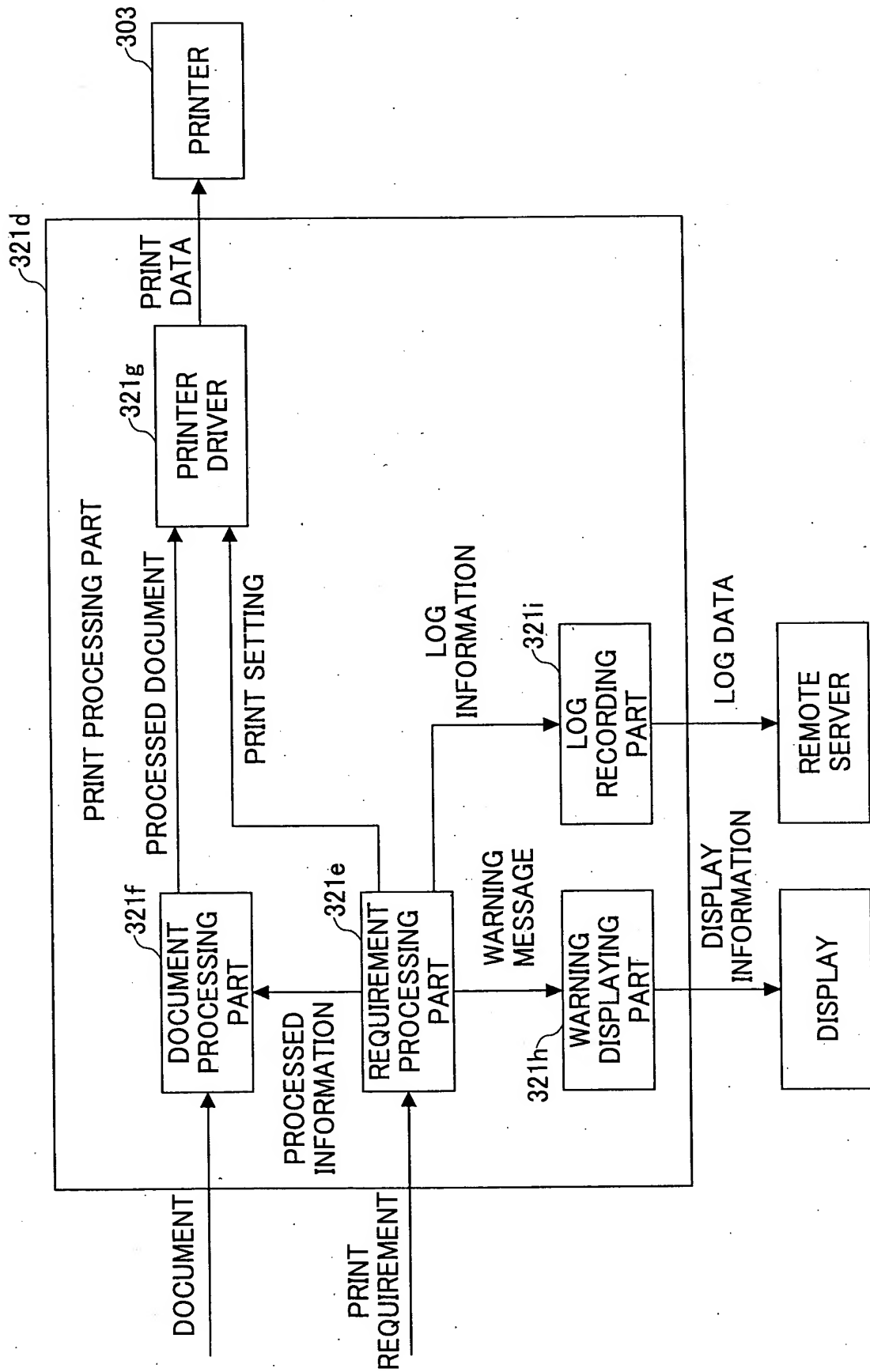


FIG.35

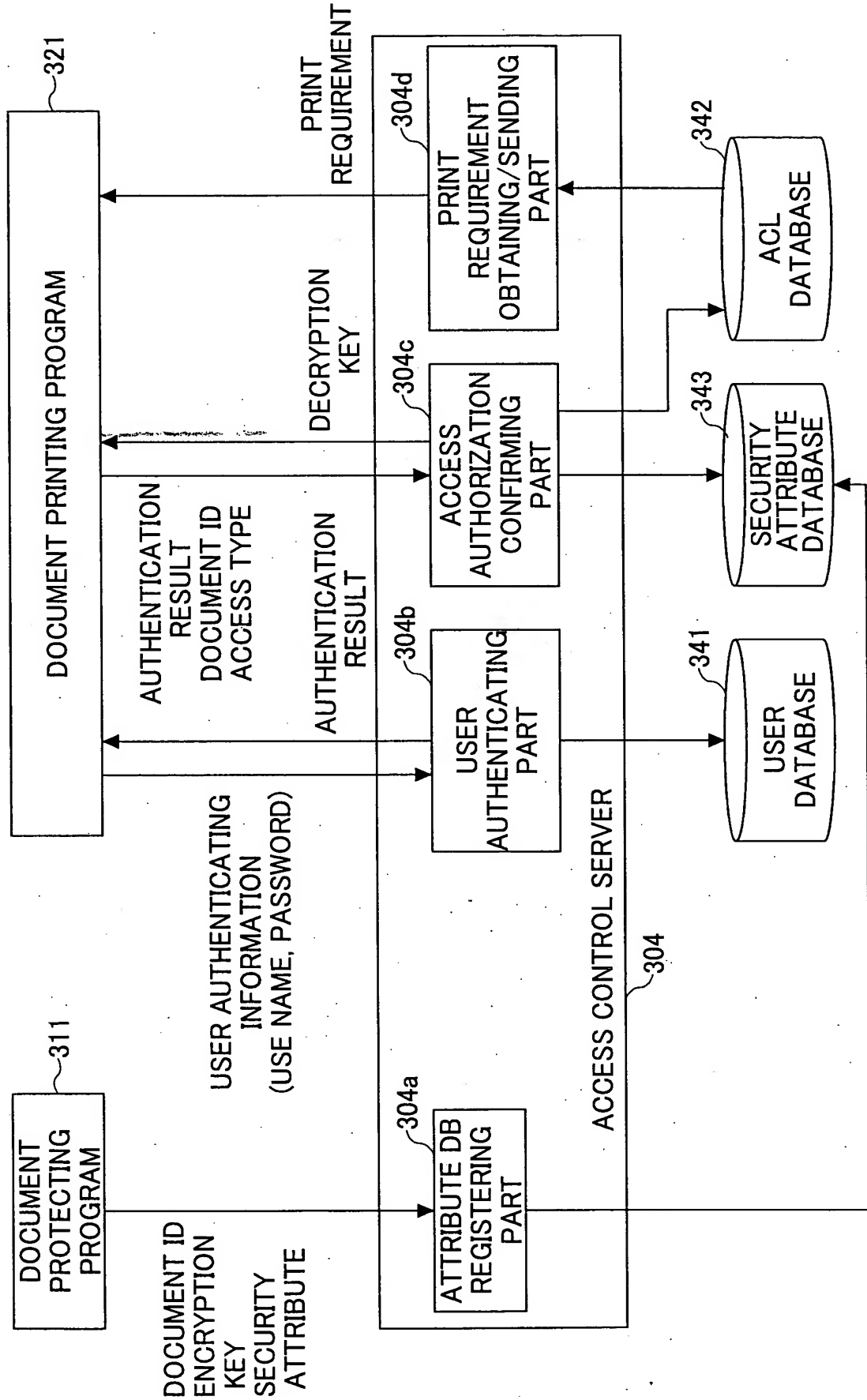
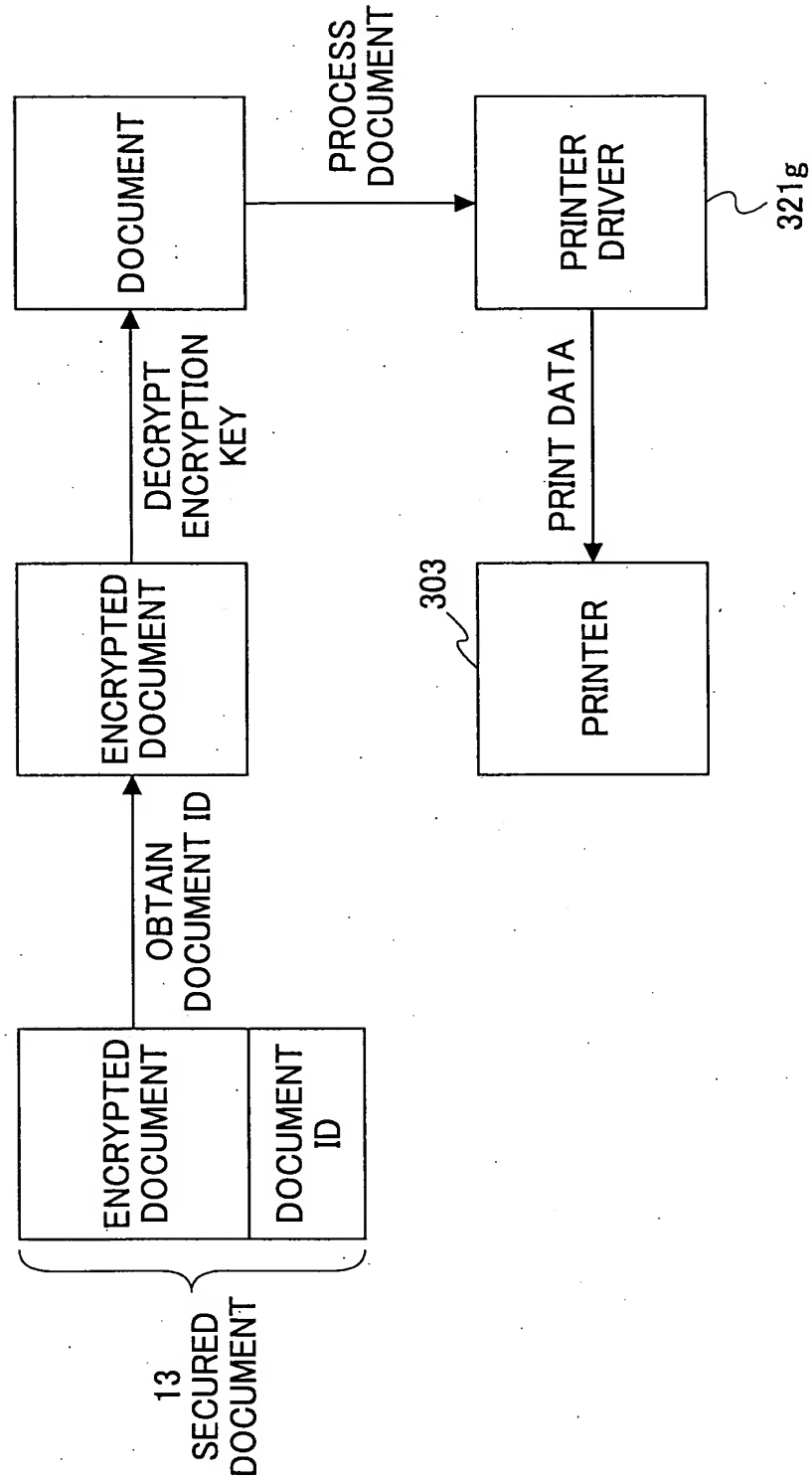


FIG.36

SECURITY ATTRIBUTE OF DOCUMENT	
DOCUMENT CATEGORY	<div>TECHNOLOGY DOCUMENT</div> <div>▼</div>
SECRET LEVEL	<div>TOP SECRET</div> <div>CONFIDENTIAL</div> <div>INTERNAL USE ONLY</div> <div>OPEN</div> <div>▼</div>
FILE:	<div>C: ¥My Documents¥sample.doc</div> <div>REFER</div>
<div>ENCRYPT</div>	



FIG.38



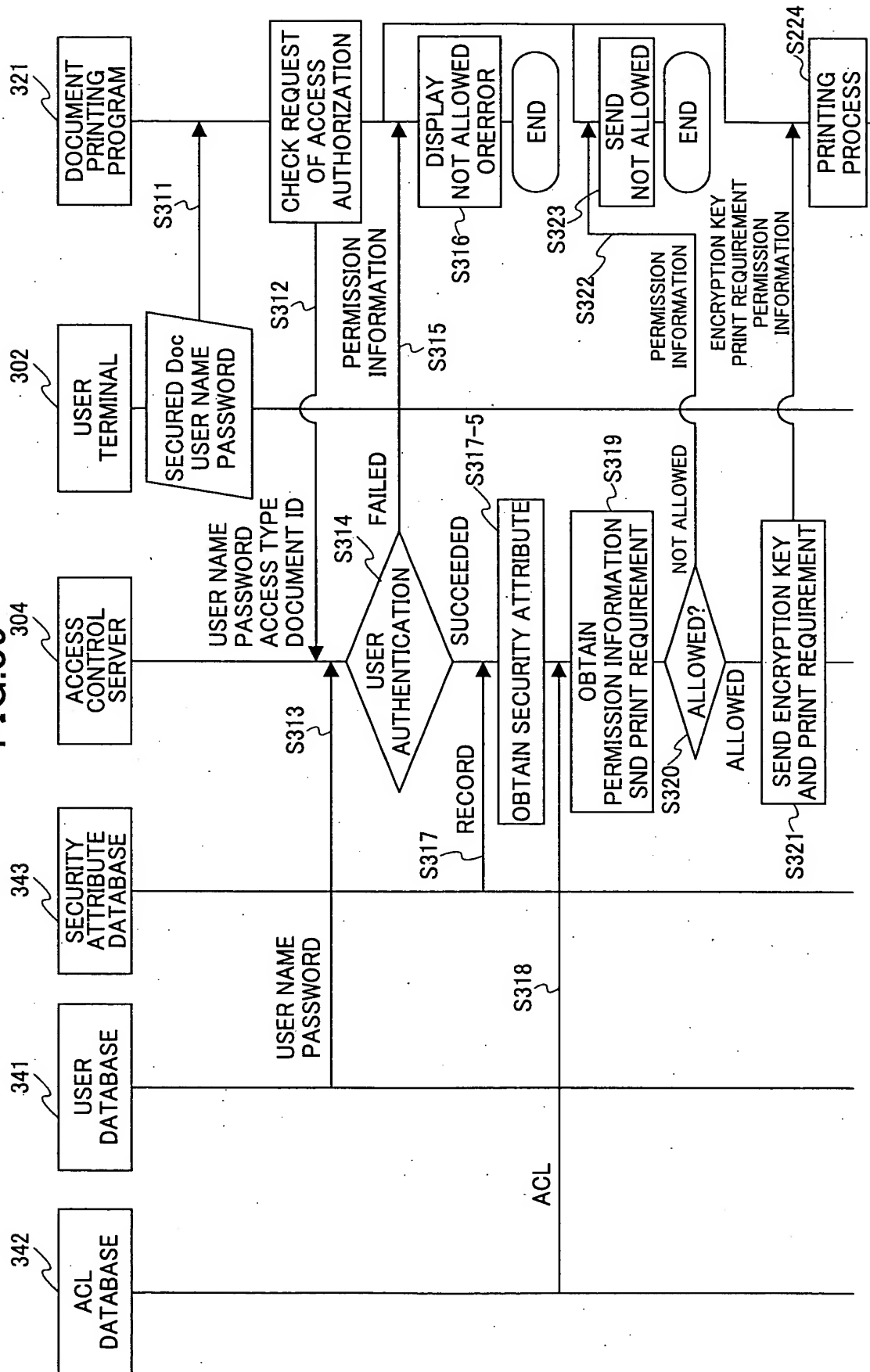


FIG.40

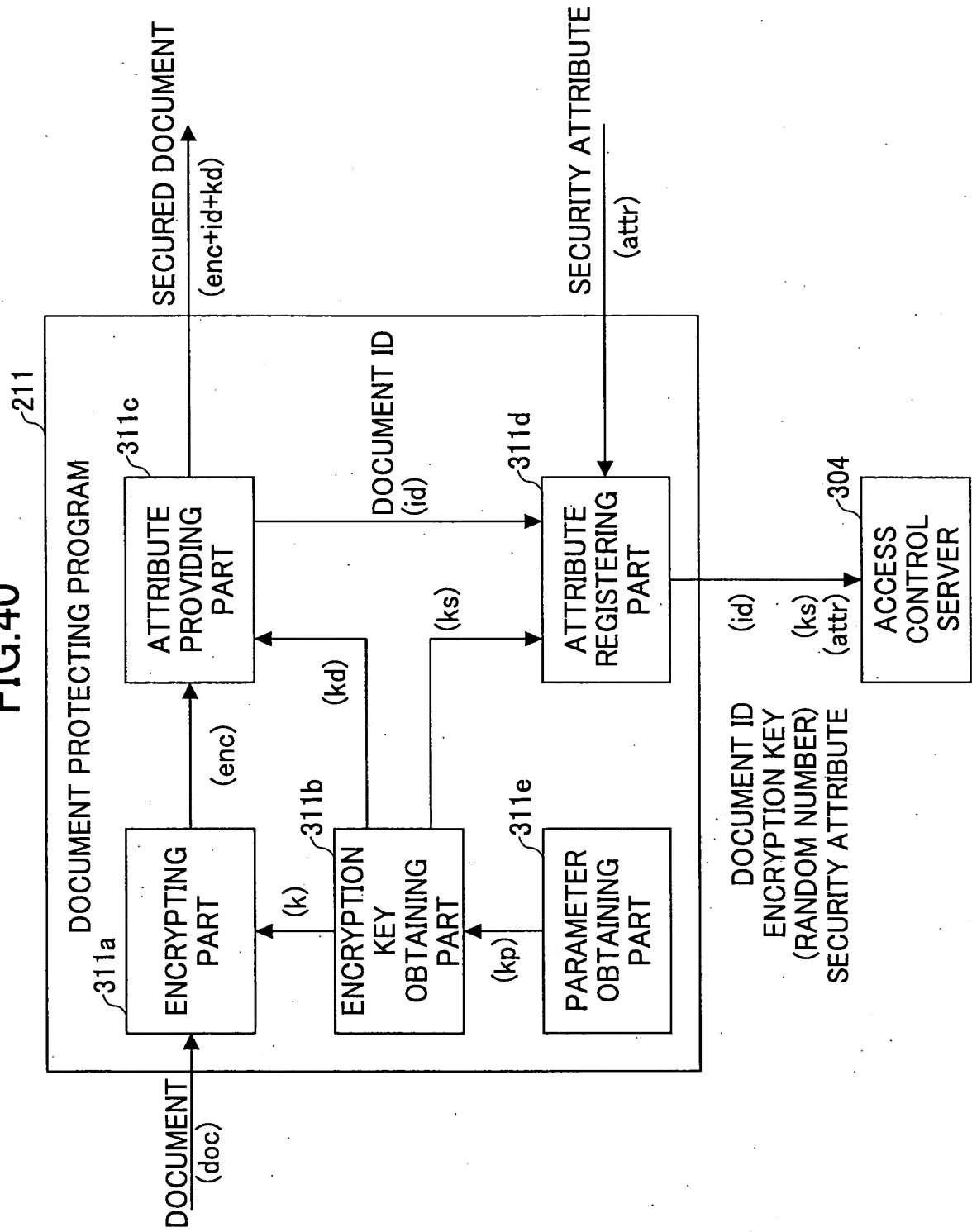




FIG.41

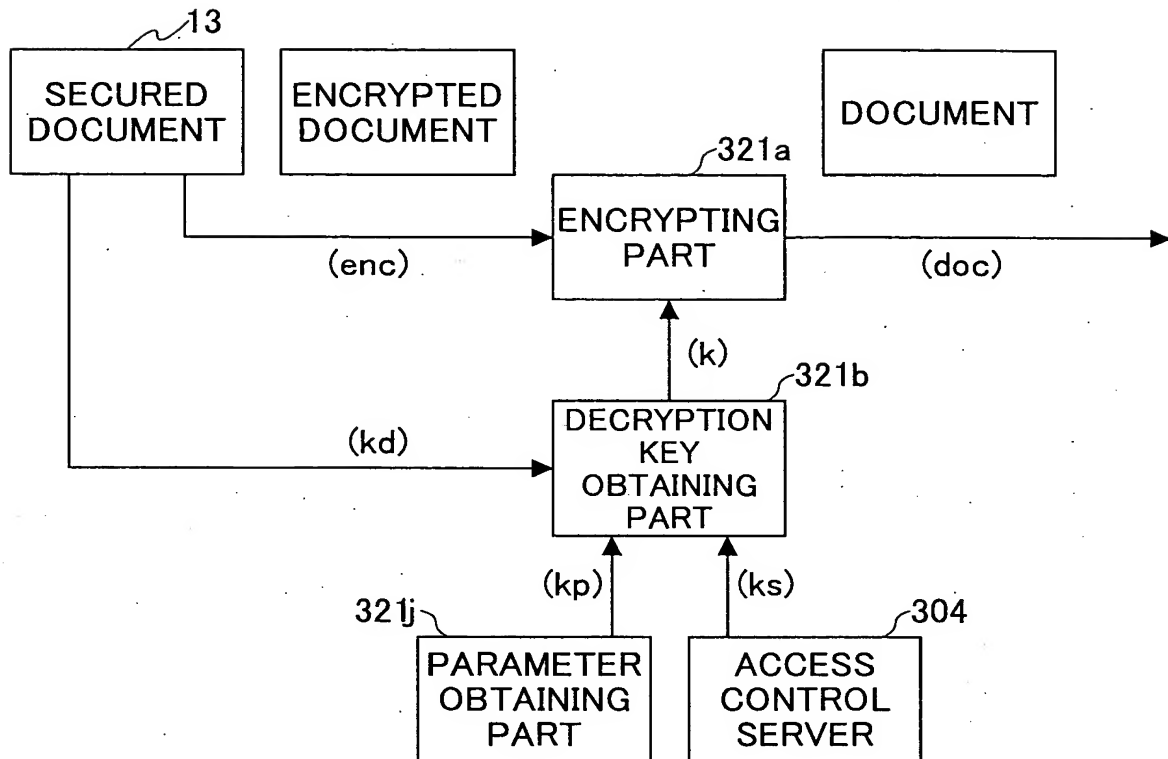
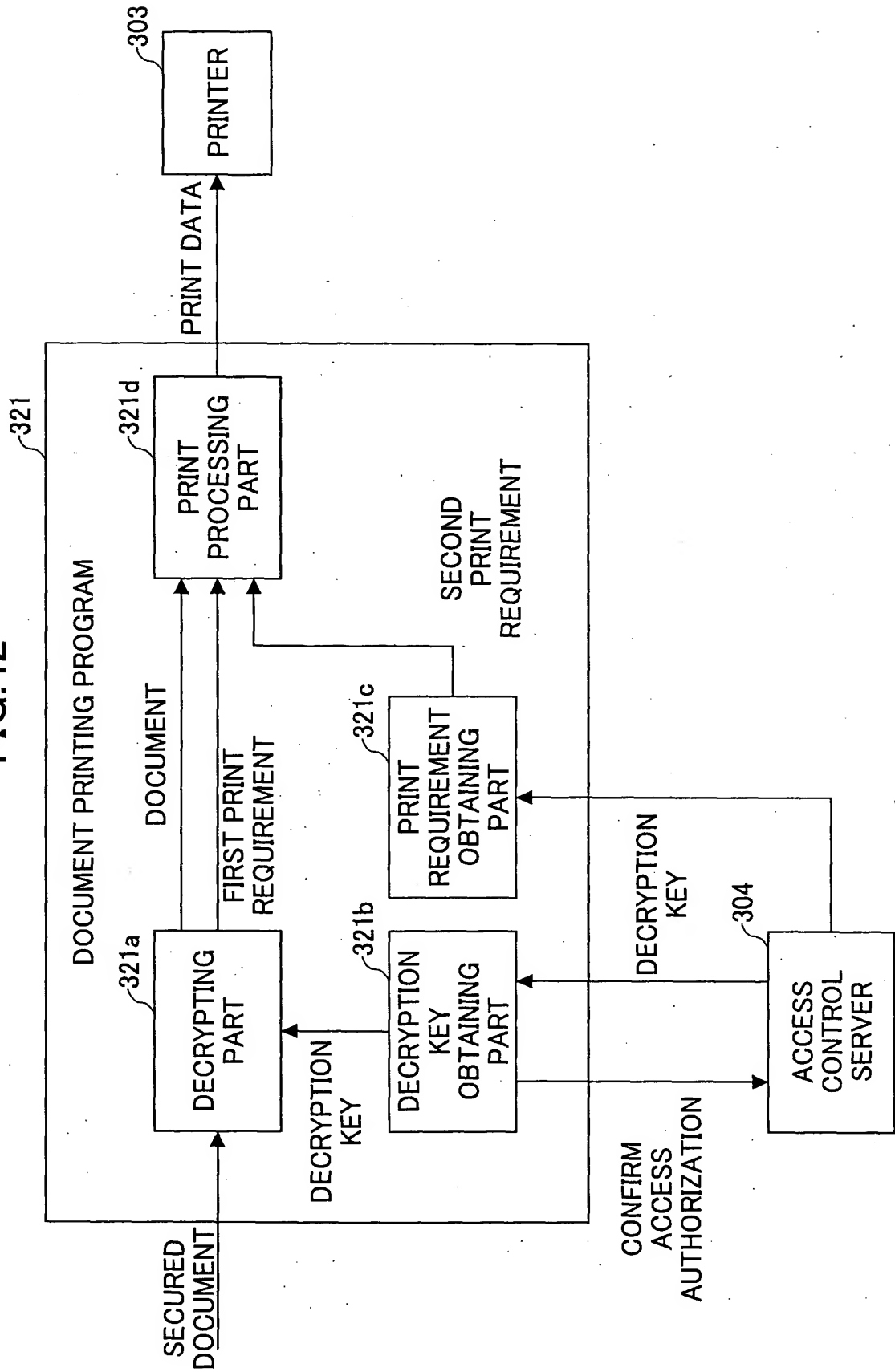


FIG.42



## FIG.43

### AS FOR TOP SECRET DOCUMENTS:

PROHIBIT COPYING AS A GENERAL RULE MUST BE PERMITTED BY THE MANAGEMENT REPRESENTATIVE WHEN COPY. MOREOVER, MUST RECORD THAT YOU COPIED. MUST OVERLAP WATERMARK SHOWING "PROHIBIT COPYING" WHEN PRINT. FURTHERMORE, MUST RECORD THAT YOU PRINTED.

ONLY RELATED PERSON IS ALLOWED TO READ

### AS FOR CONFIDENTIAL DOCUMENTS:

ONLY RELATED PERSON IS ALLOWED TO COPY  
MUST PRINT A LABEL SHOWING "CONFIDENTIAL DOCUMENT" SIMULTANEOUSLY  
WHEN YOU PRINTS OUT

ONLY RELATED PERSON IS ALLOWED TO READ

### AS FOR INTERNAL USE ONLY DOCUMENTS:

MUST PERMITTED BY THE MANAGER WHEN YOU SENDS OUTSIDE  
ALLOW TO COPY, PRINT OUT, AND READ ONLY INSIDE THE OFFICE WITHOUT PERMISSION

### AS FOR PERSONNEL RELATED DOCUMENTS:

MUST HANDLE ALL AS THE CONFIDENTIAL DOCUMENT

FIG.44

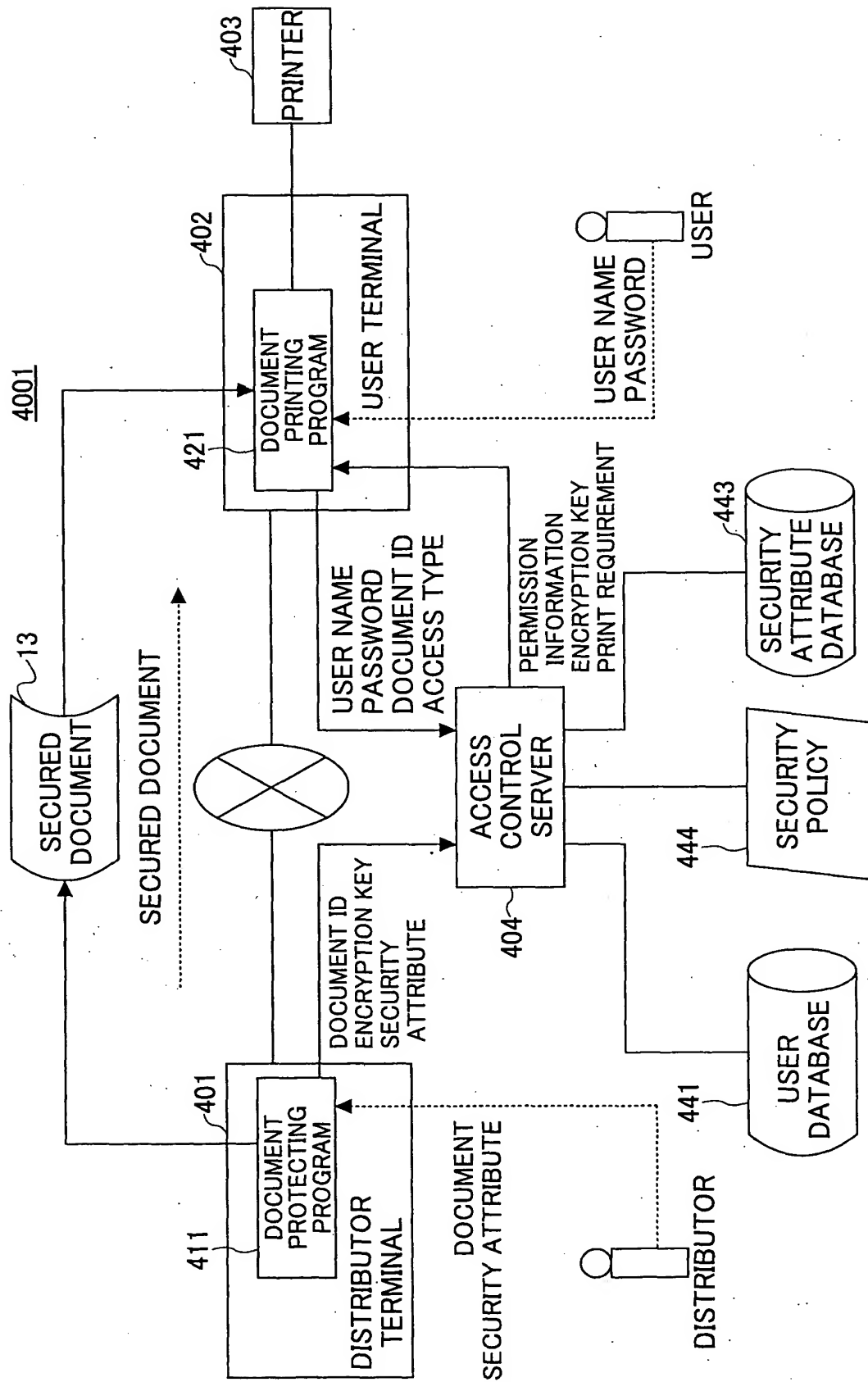


FIG.45

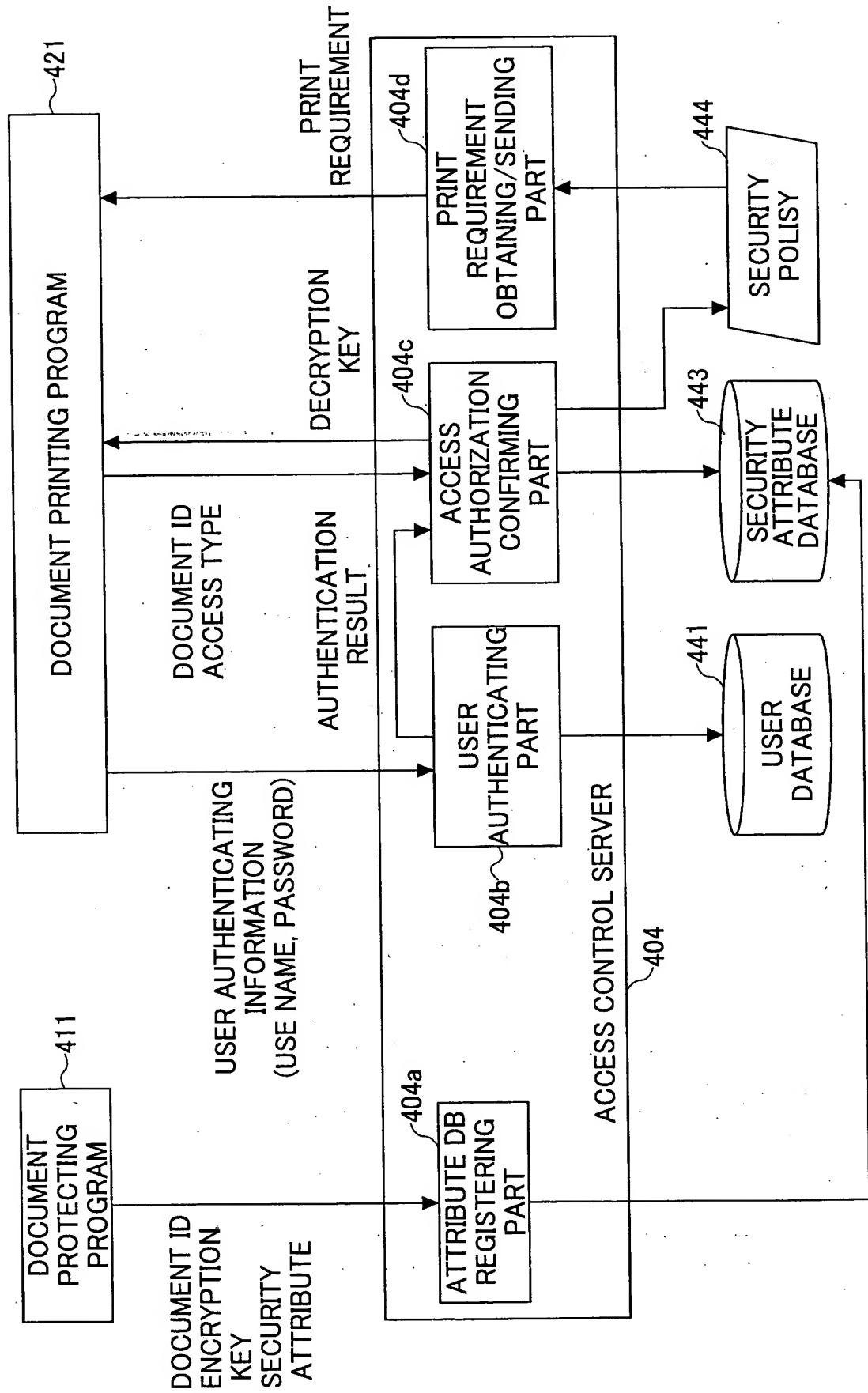


FIG.46

Document Type		User Type		Access Type	Permission	Requirement
Category	Sensitivity	Category	Level			
Technical	Secret	Technical	Medium High	Read	Allowed	RAD
				Print	Allowed	PAC
						BDP
						EBC
Technical	Top Secret	Technical	High	Hardcopy	Denied	RAD
				...		
				...		
Human Resource	Top Secret	Human Resource	High	...		
				Read	Allowed	RAD
				Print	Denied	
				Hardcopy	Denied	

FIG.47

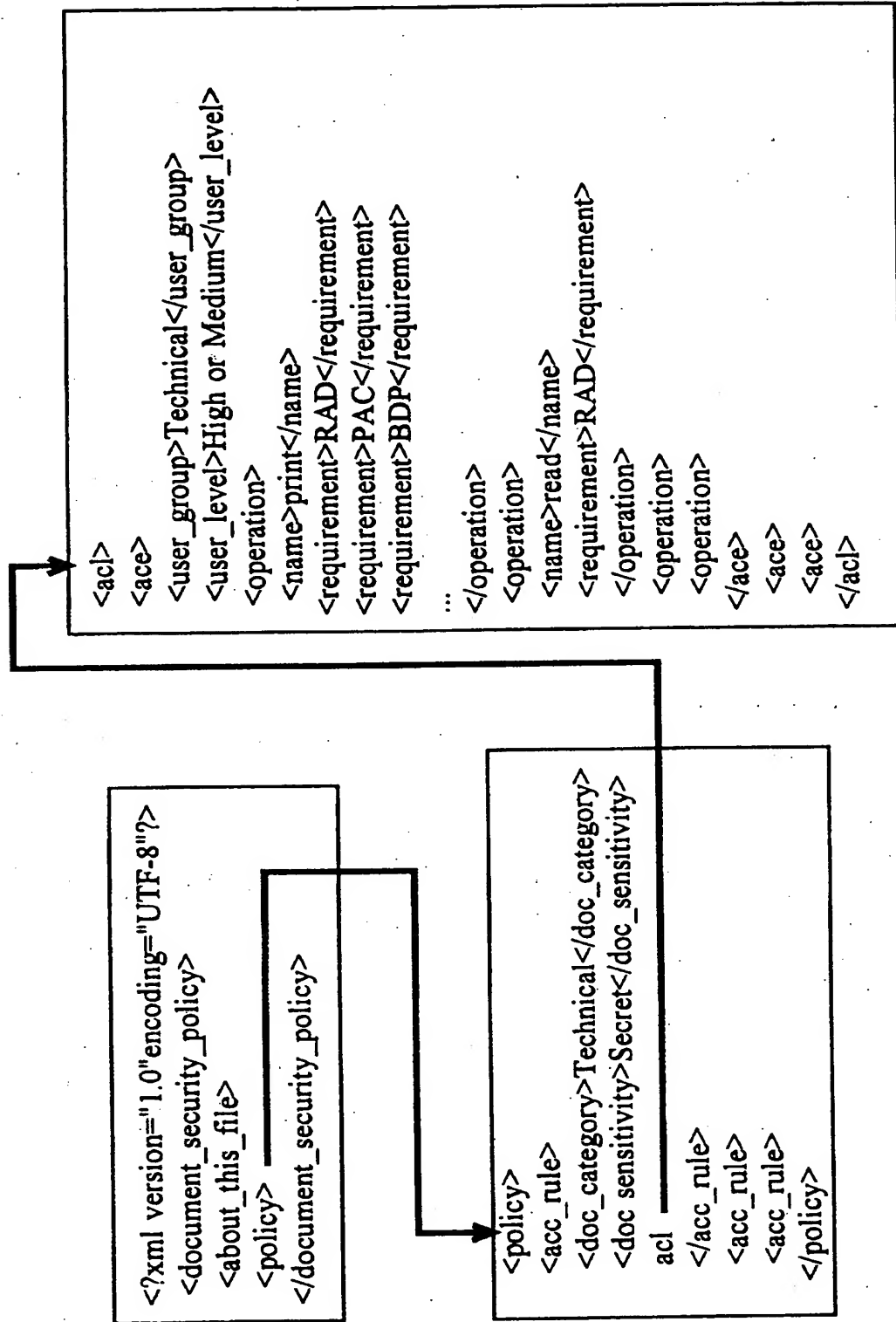


FIG.48

User name	Password	Category	Level
Ichiro	98q34rah	Technical	Medium
		General	Basic
Taro	Adoijoqer	Human Resource	Top Secret
		General	Basic
⋮			



FIG.49

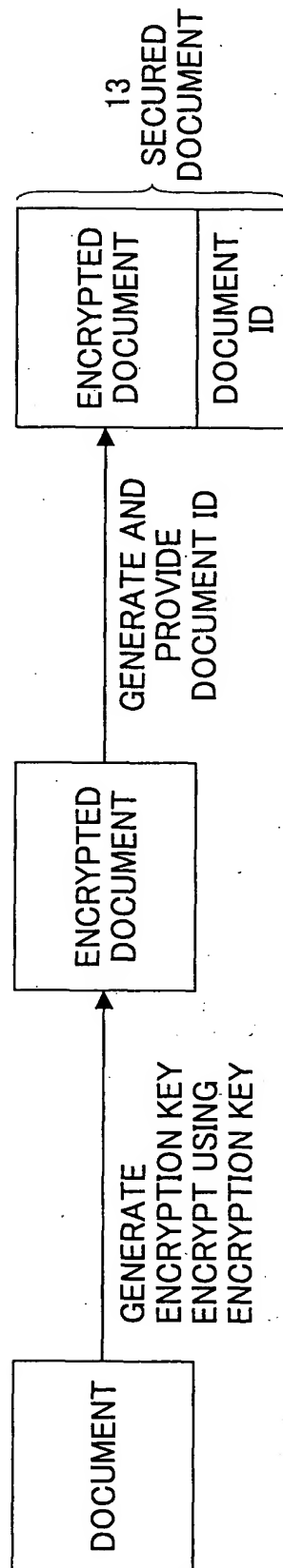


FIG.50

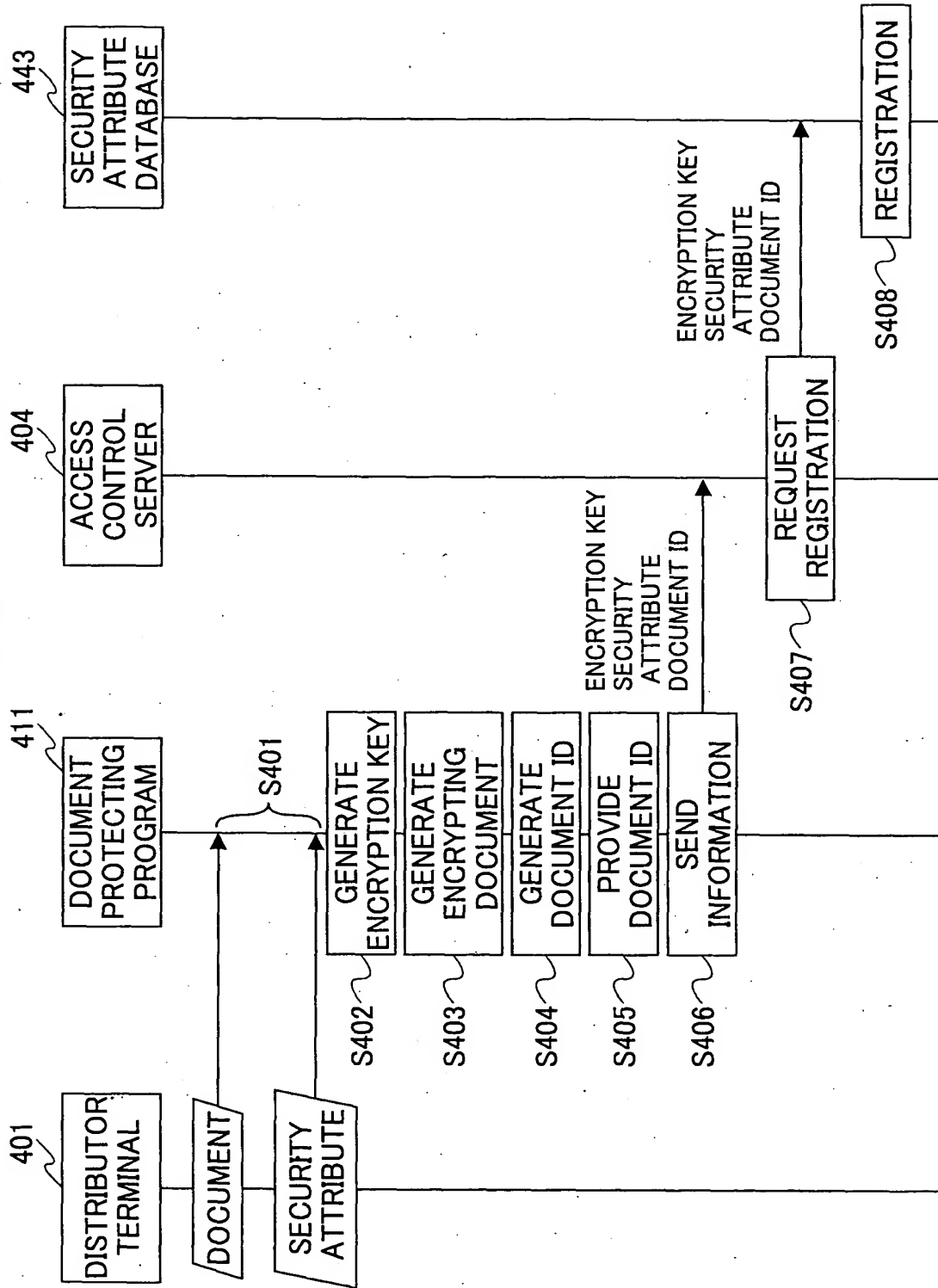


FIG.51

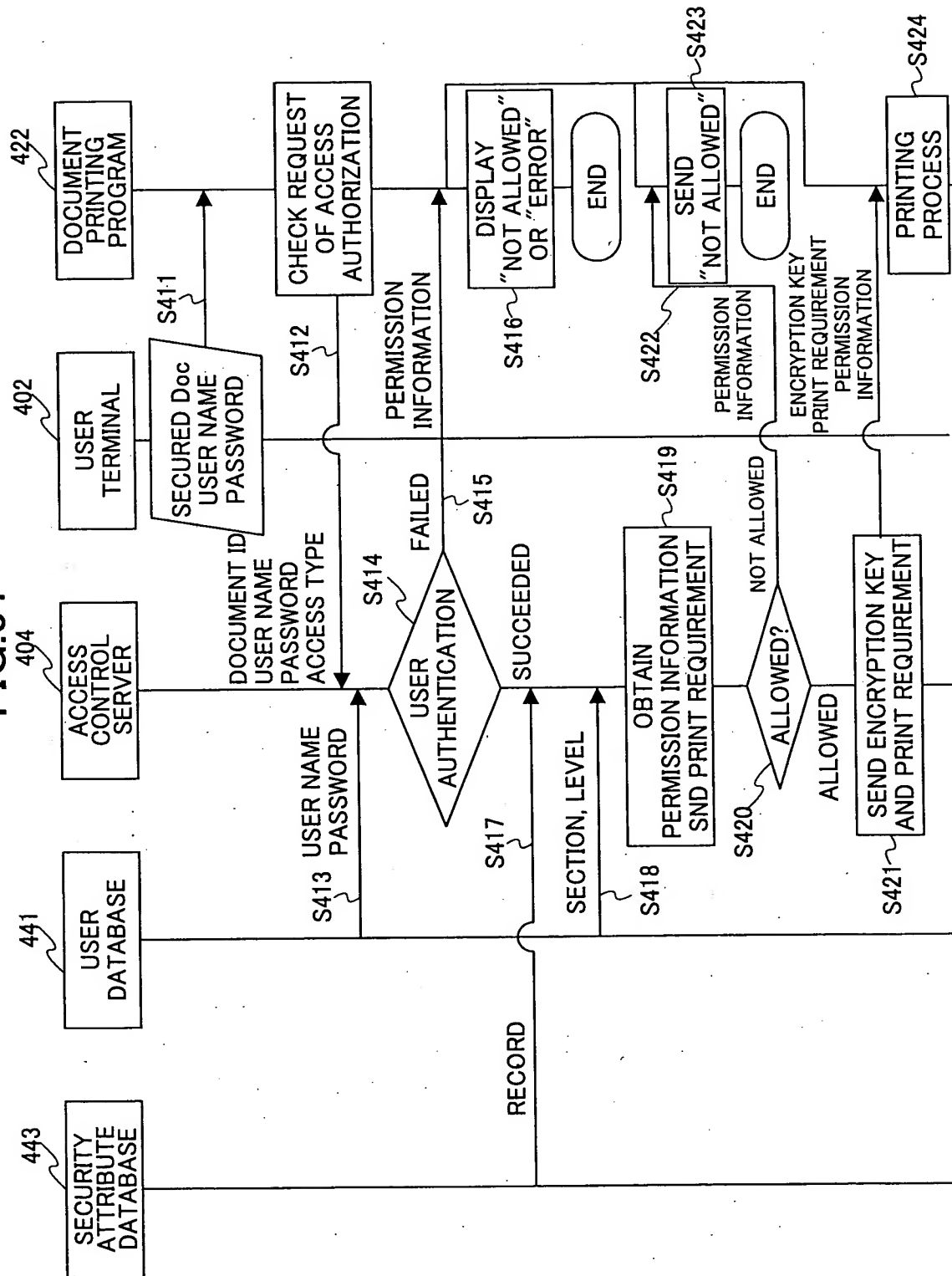
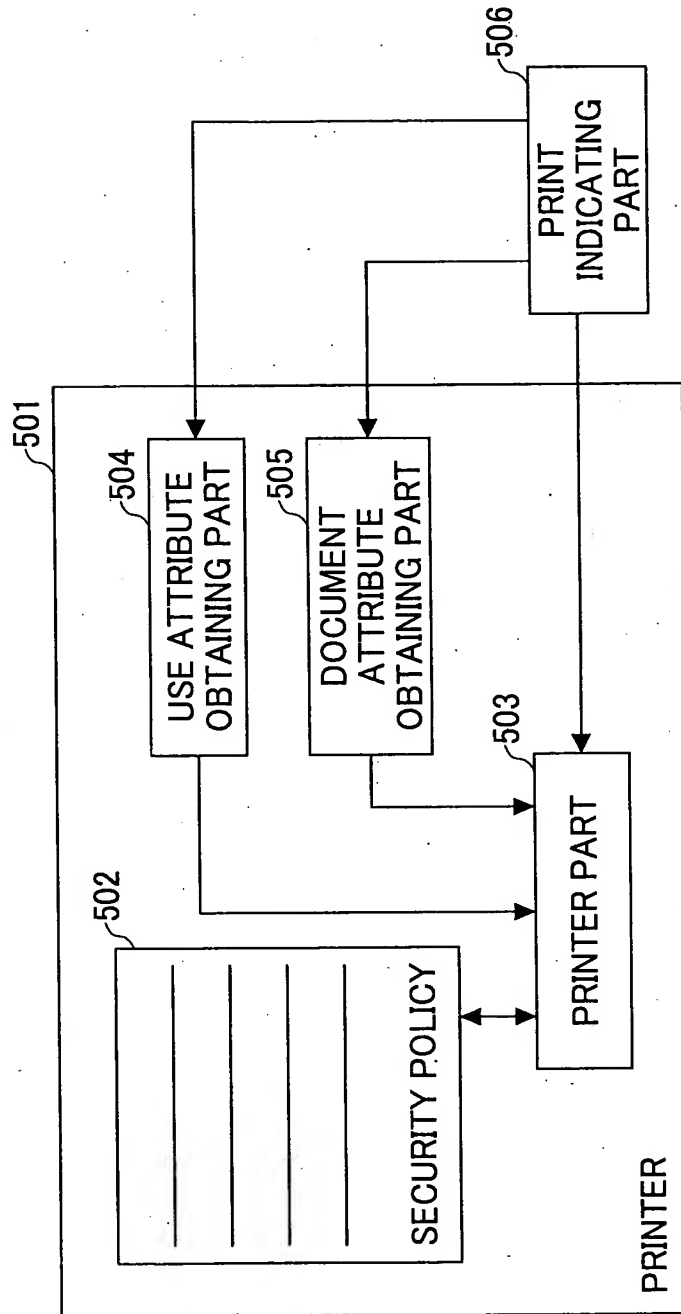


FIG.52



## FIG.53

502

```
<?xml version="1.0" encoding="SHIFT-JIS" ?>
<document_security_policy>
<policy>
  <acc_rule>
    <doc_category>ANY</doc_category>
    <doc_security_level>basic</doc_security_level>
    <acl>
      <ace>
        <user_category>ANY</user_category>
        <user_security_level>ANY</user_security_level>
        <operation>
          <name>print</name>
          <allowed/><!-- allowed without any requirement -->
        </operation>
      </ace>
    </acl>
  </acc_rule>
  <doc_category>ANY</doc_category>
  <doc_security_level>high</doc_security_level>
  <acl>
    <ace>
      <user_category>DOC-CATEGORY</user_category>
      <user_security_level>ANY</user_security_level>
      <operation>
        <name>print</name>
        <requirement>audit</requirement>
        <requirement>embed_trace_info</requirement>
      </operation>
    </ace>
  </acl>
</acc_rule>
</policy>
```

FIG. 54

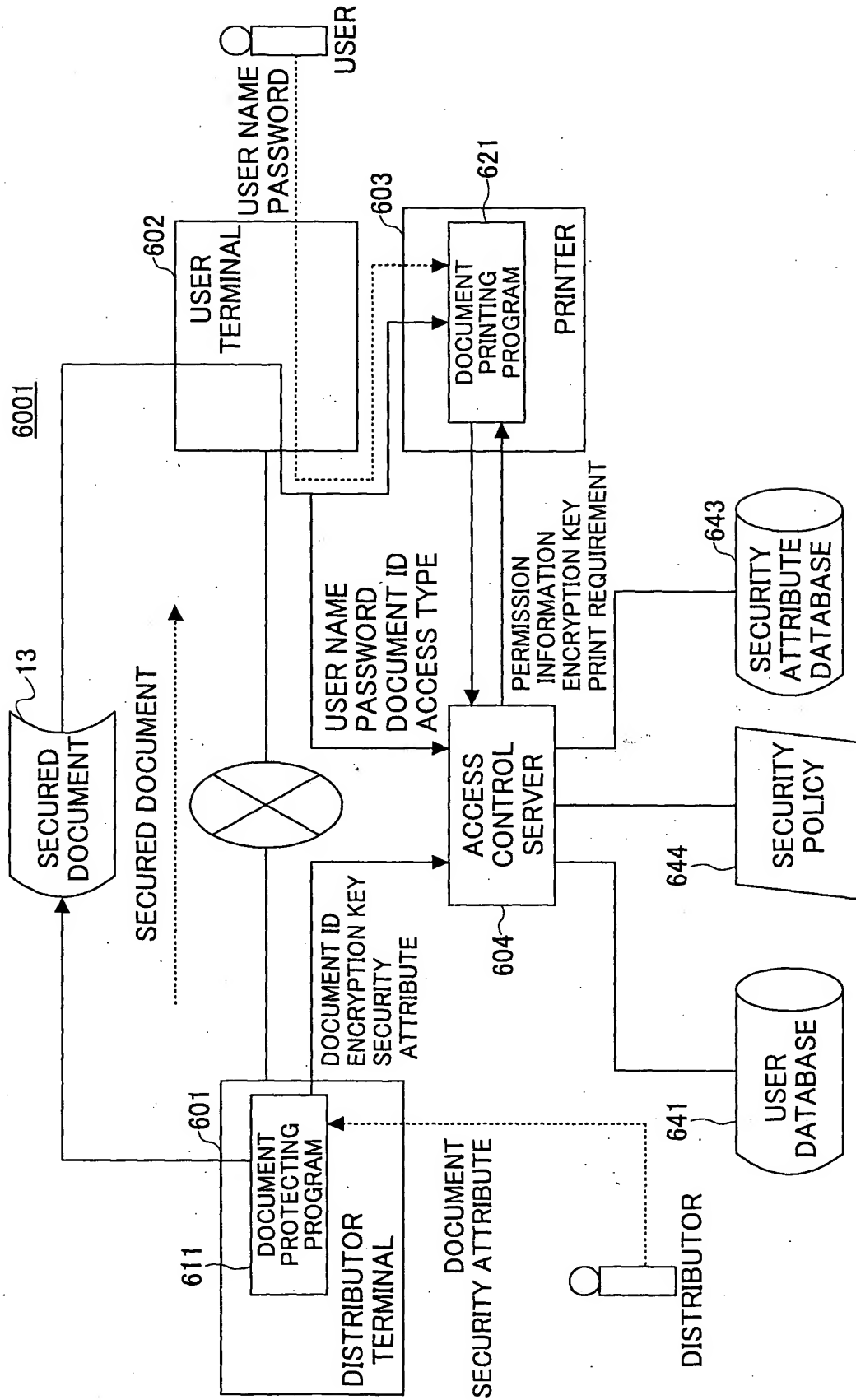


FIG.55

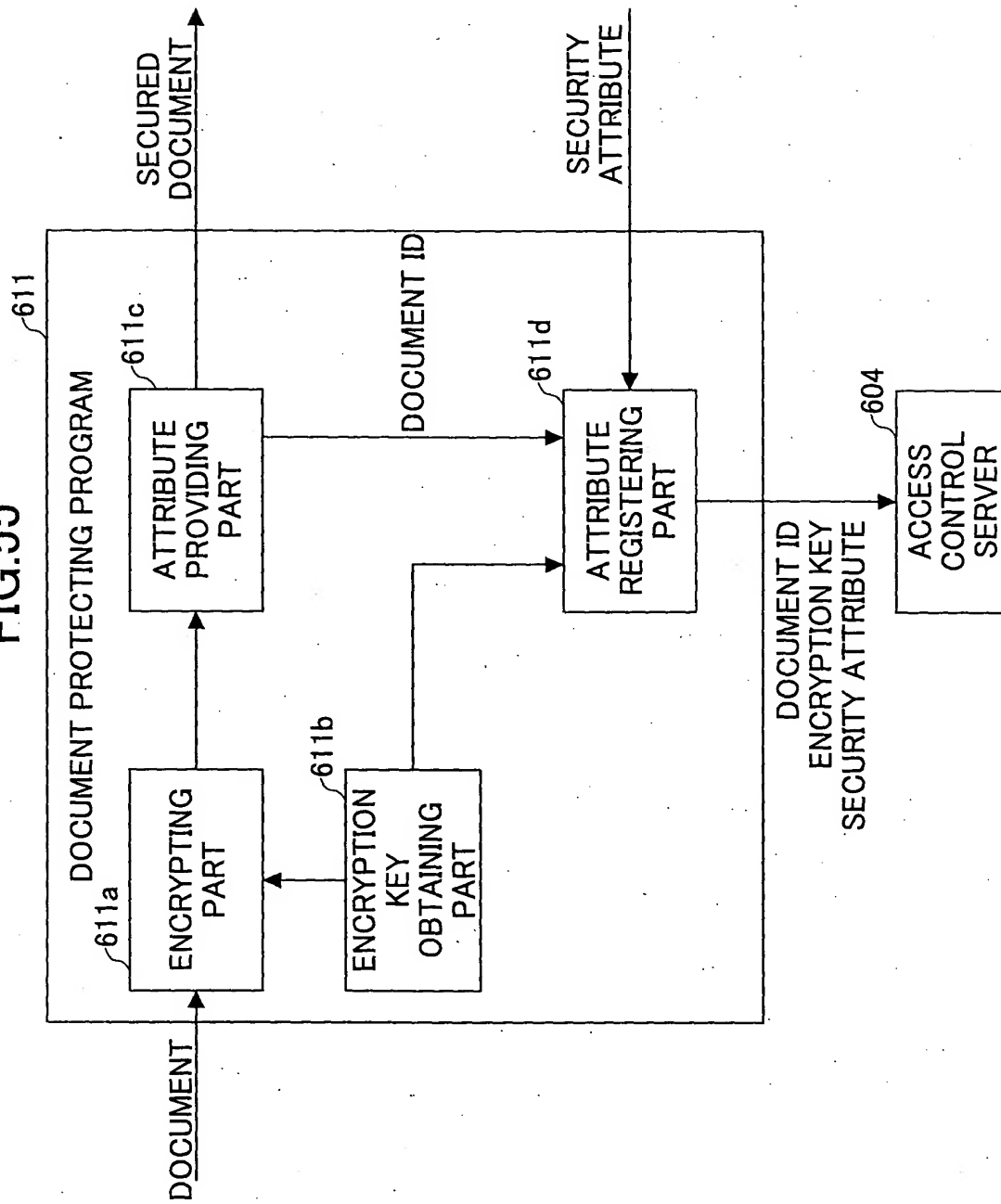


FIG.56

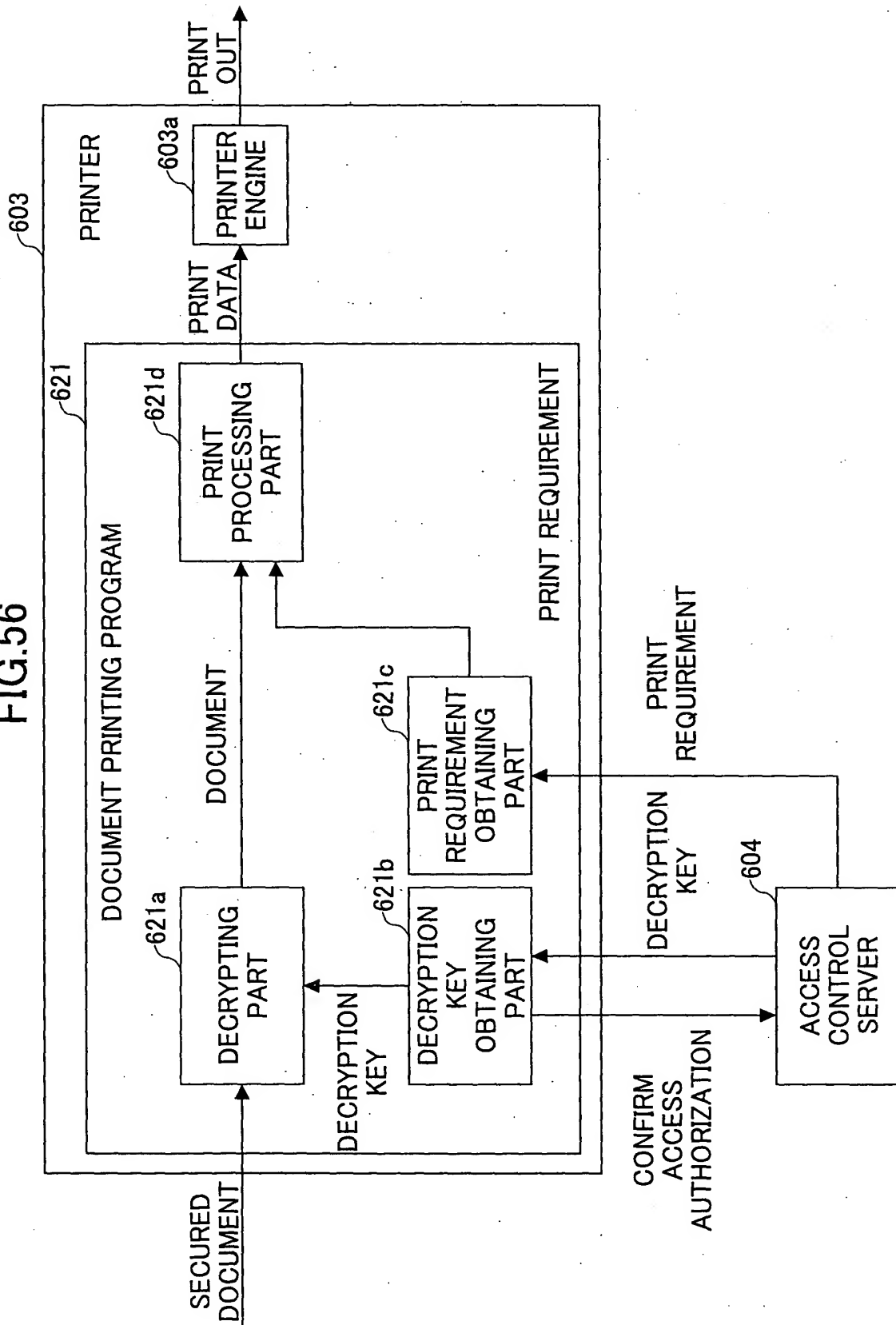




FIG.57

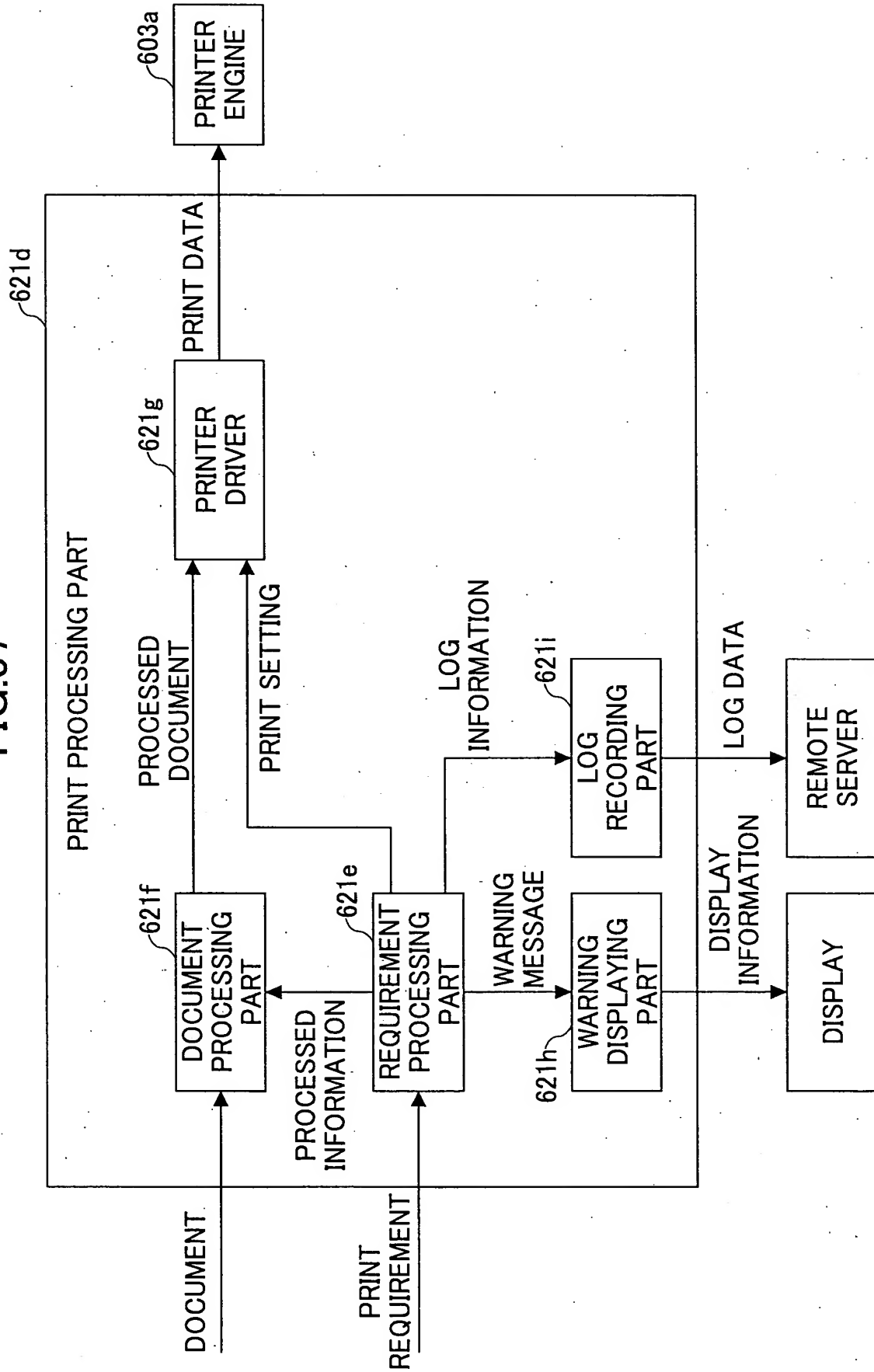


FIG.58

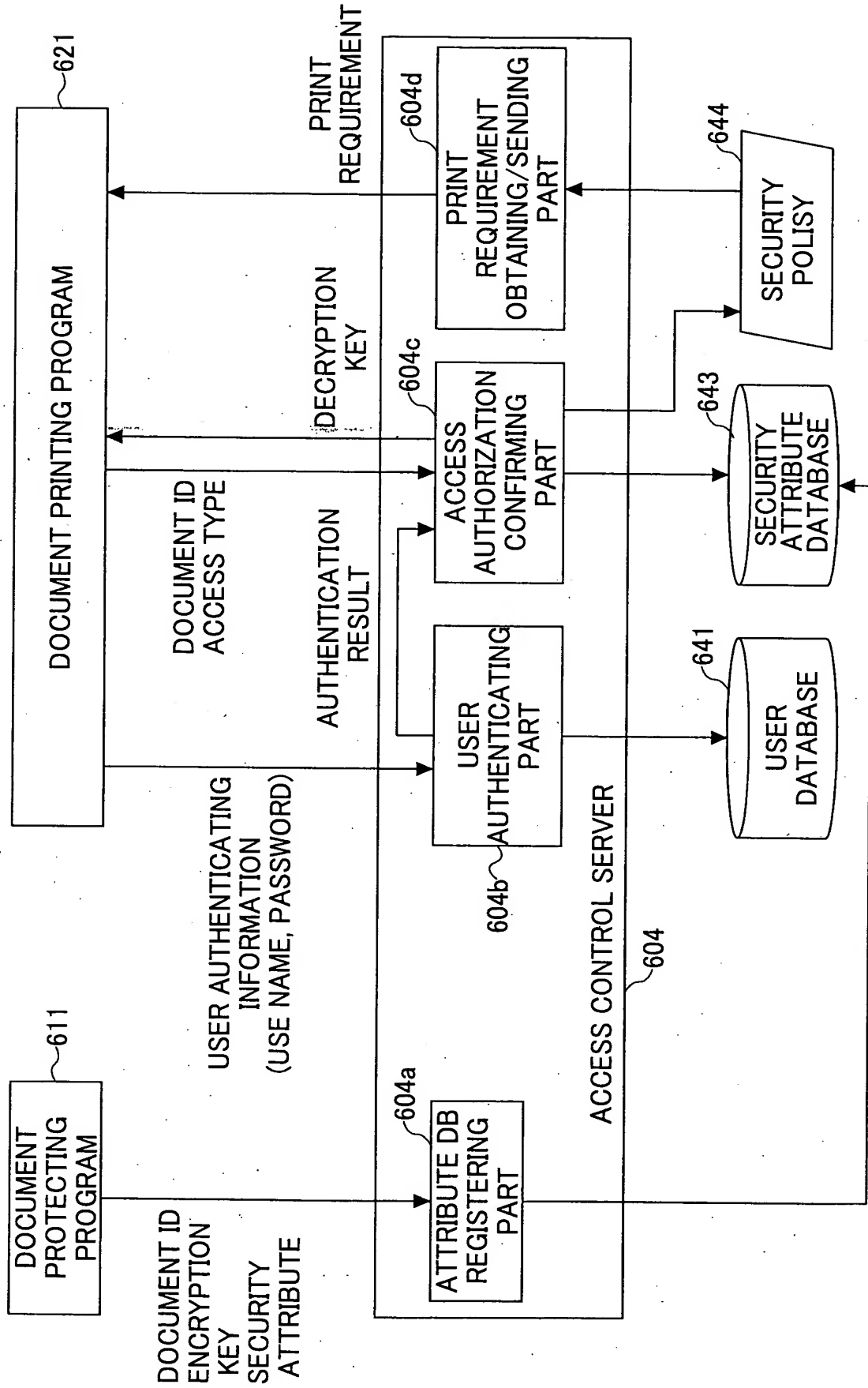


FIG.59

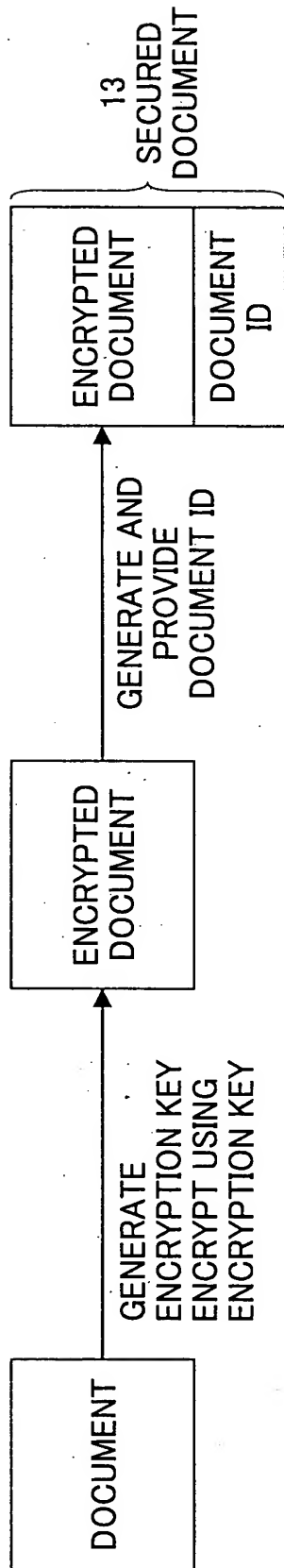


FIG.60

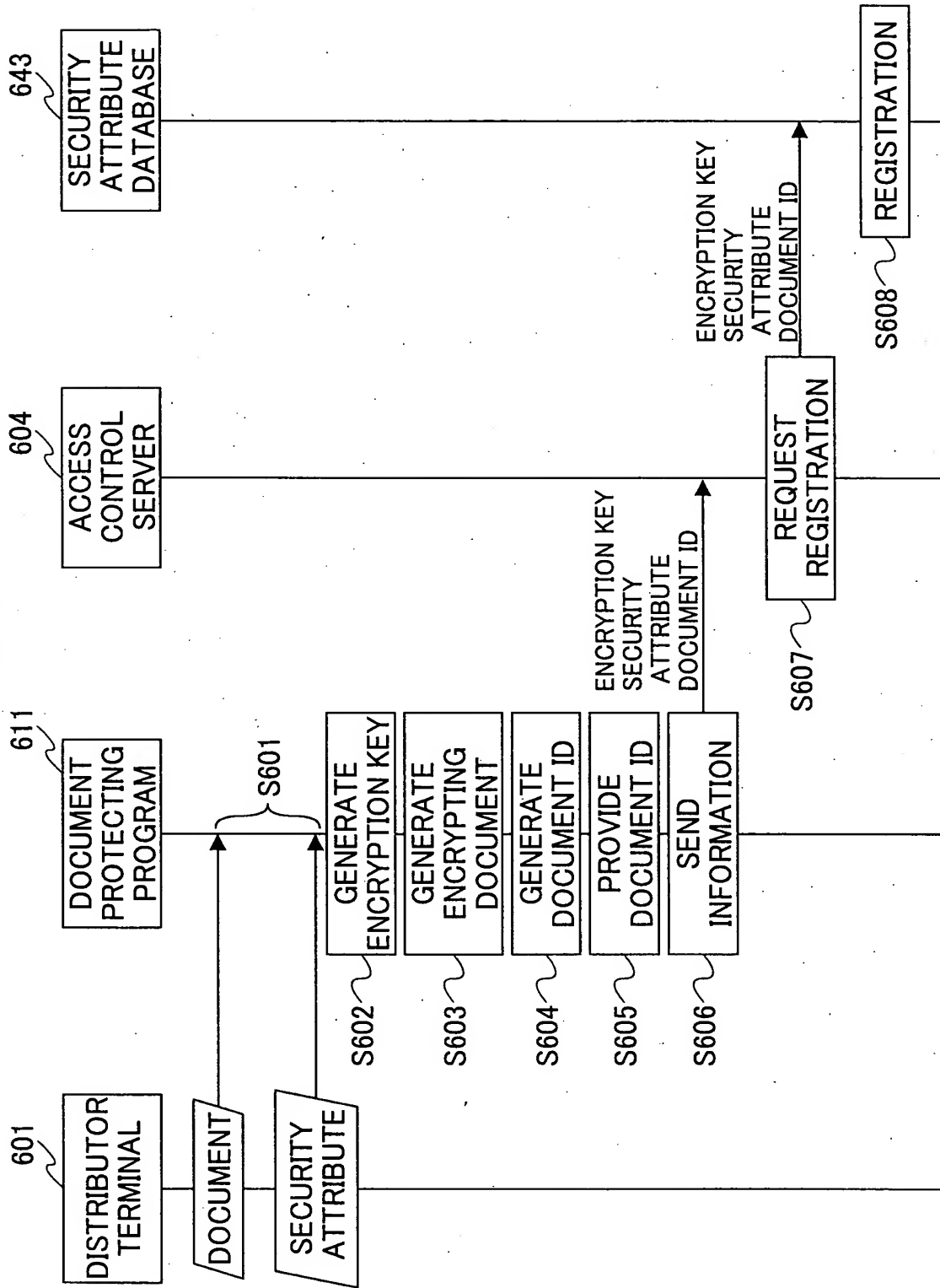


FIG.61

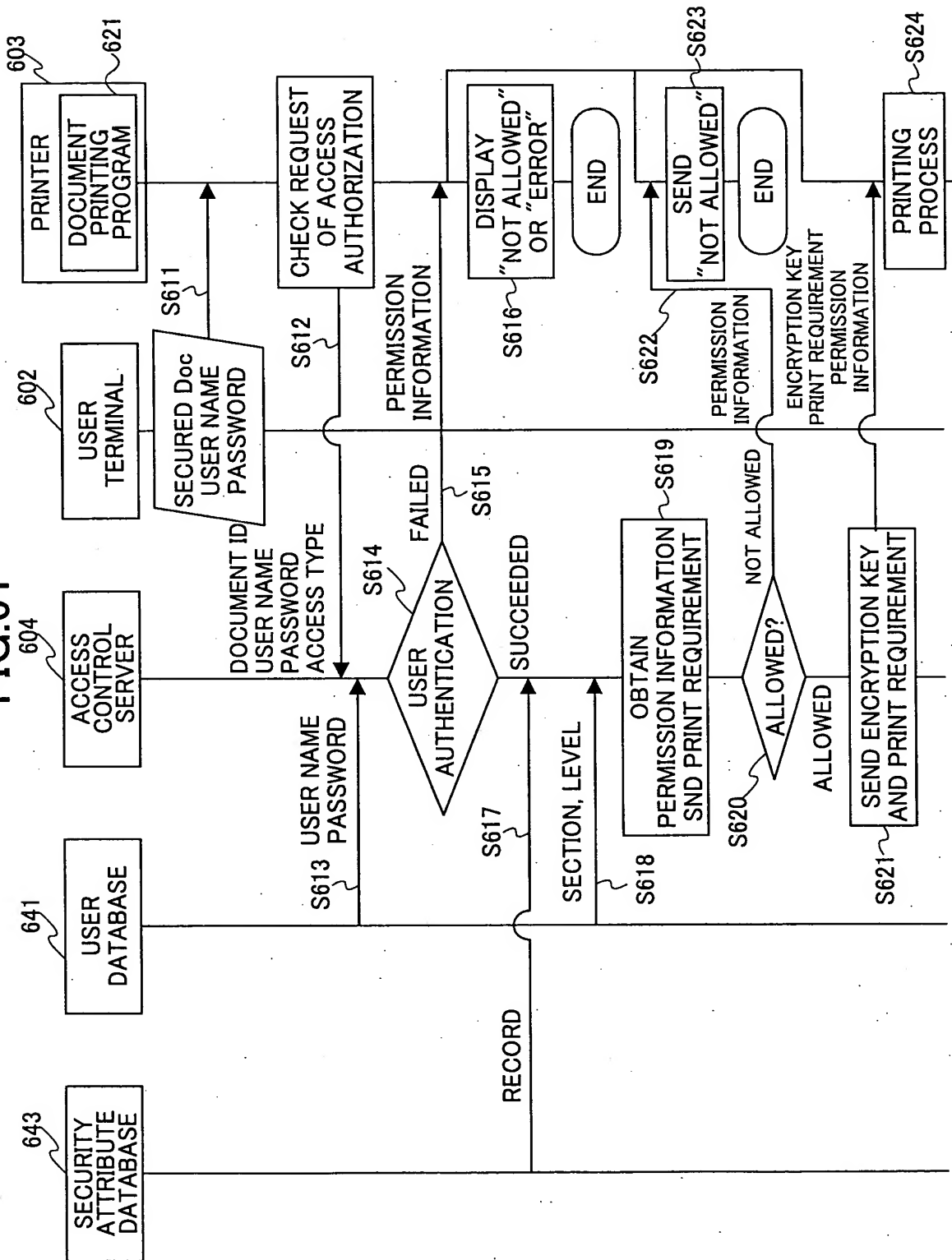


FIG.62

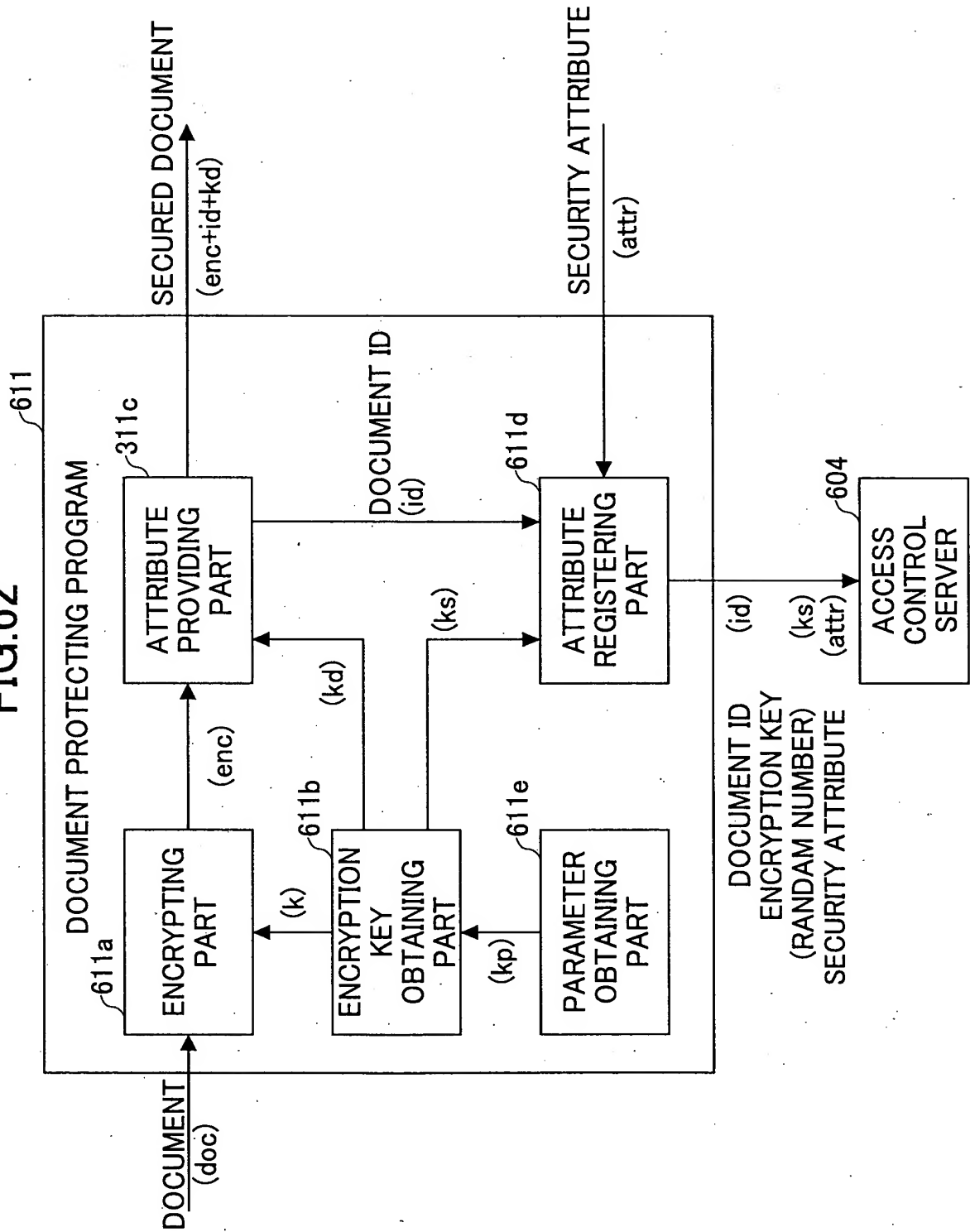


FIG.63

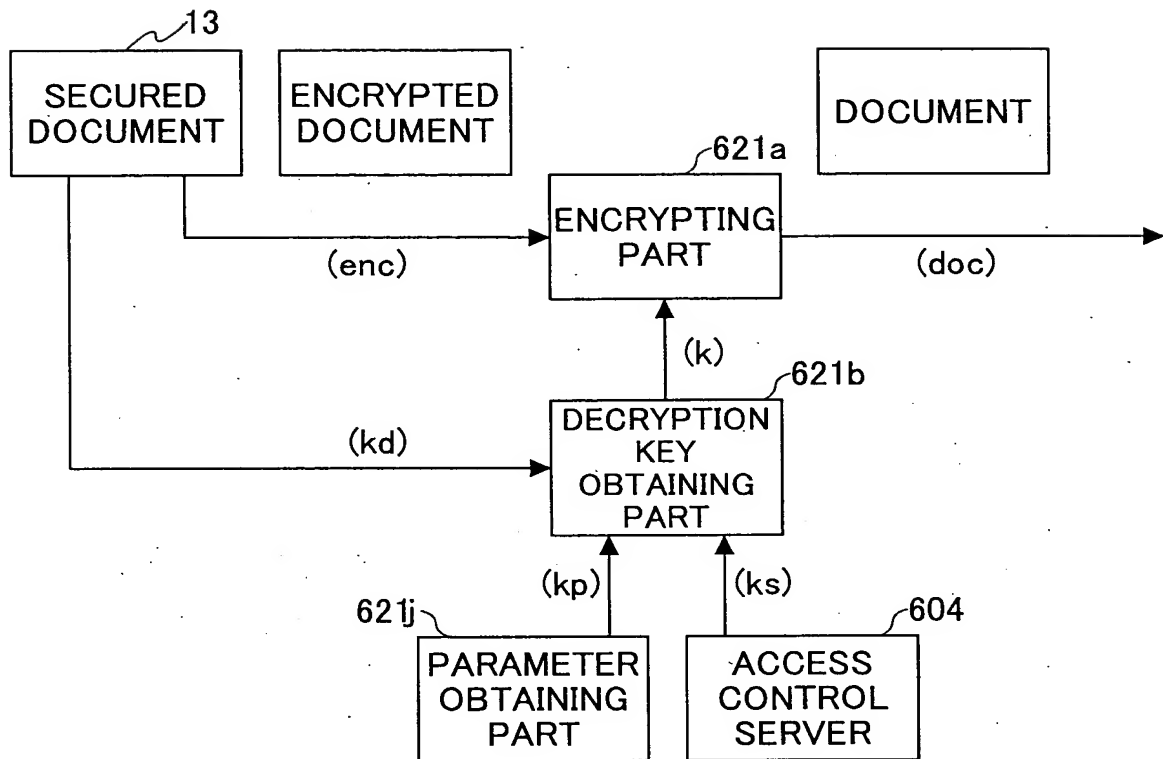


FIG. 64

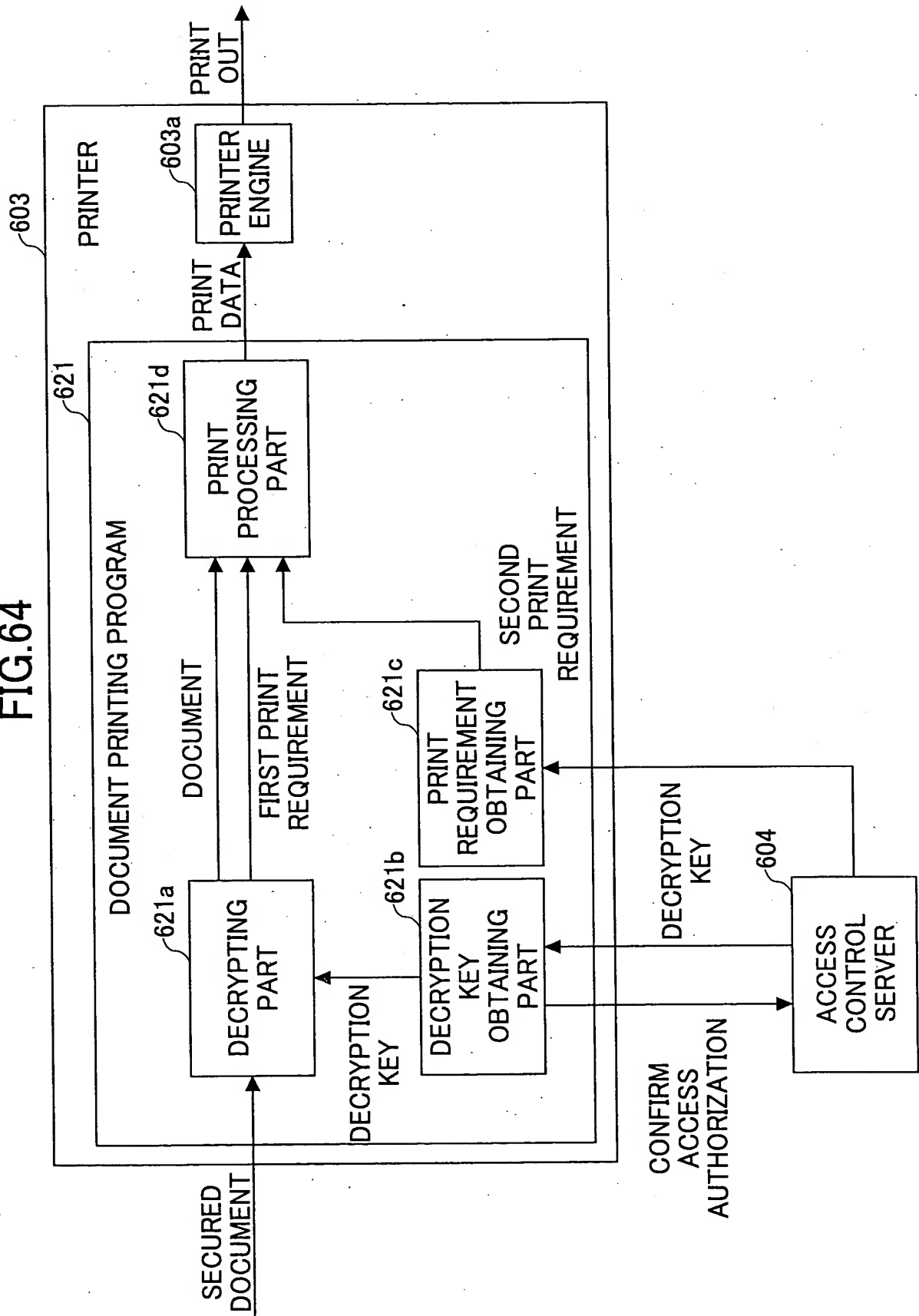
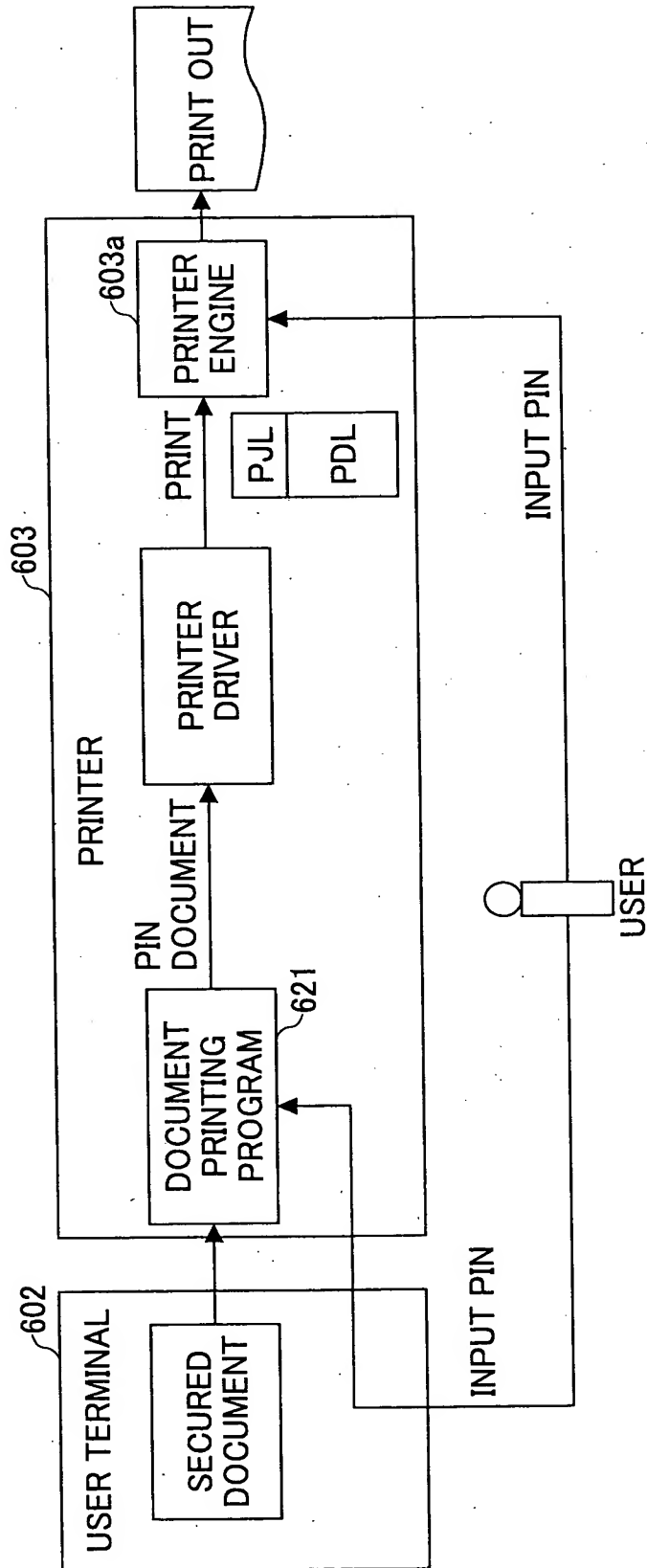
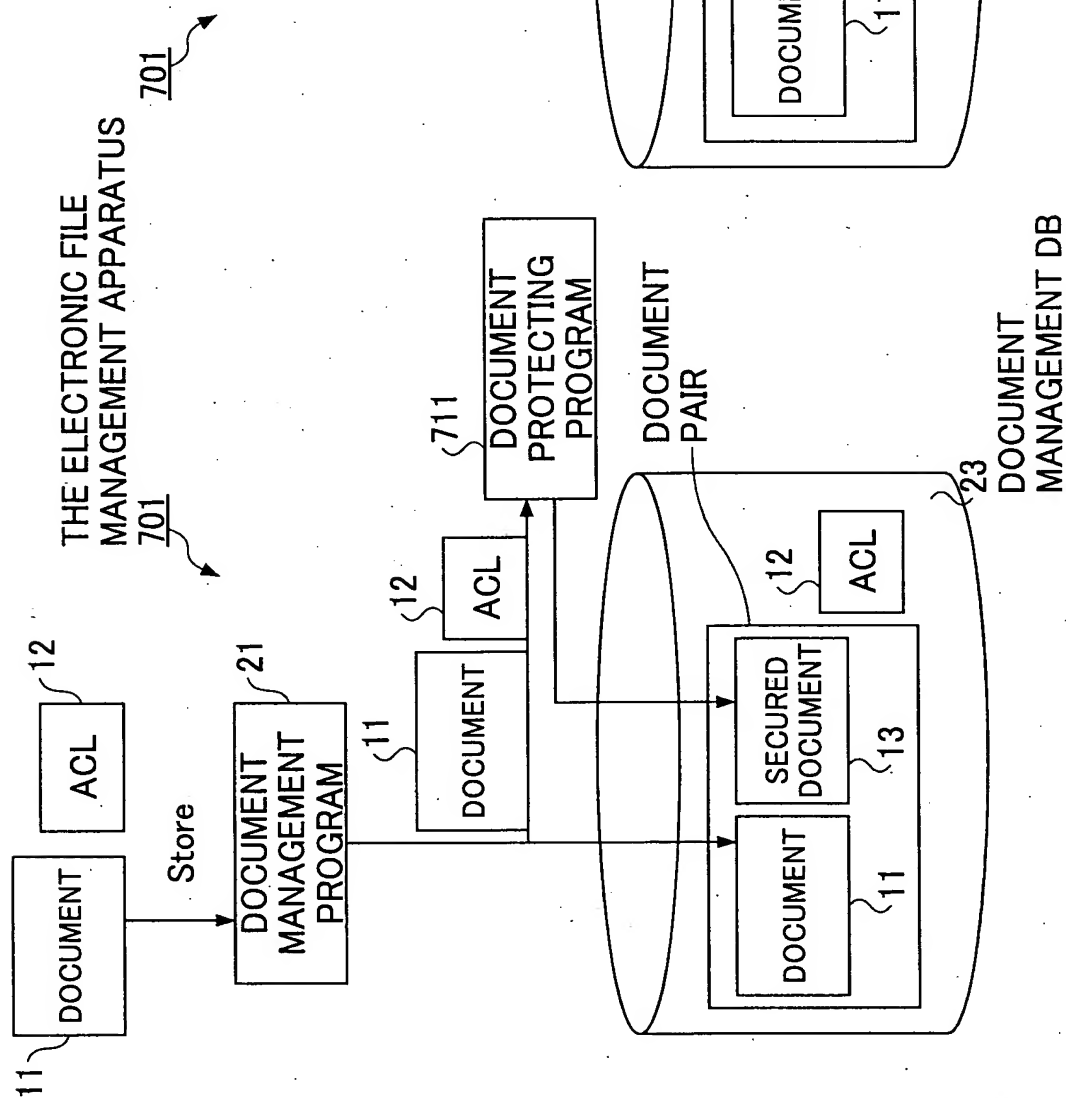




FIG.65



**FIG. 66A**



**FIG. 66B**

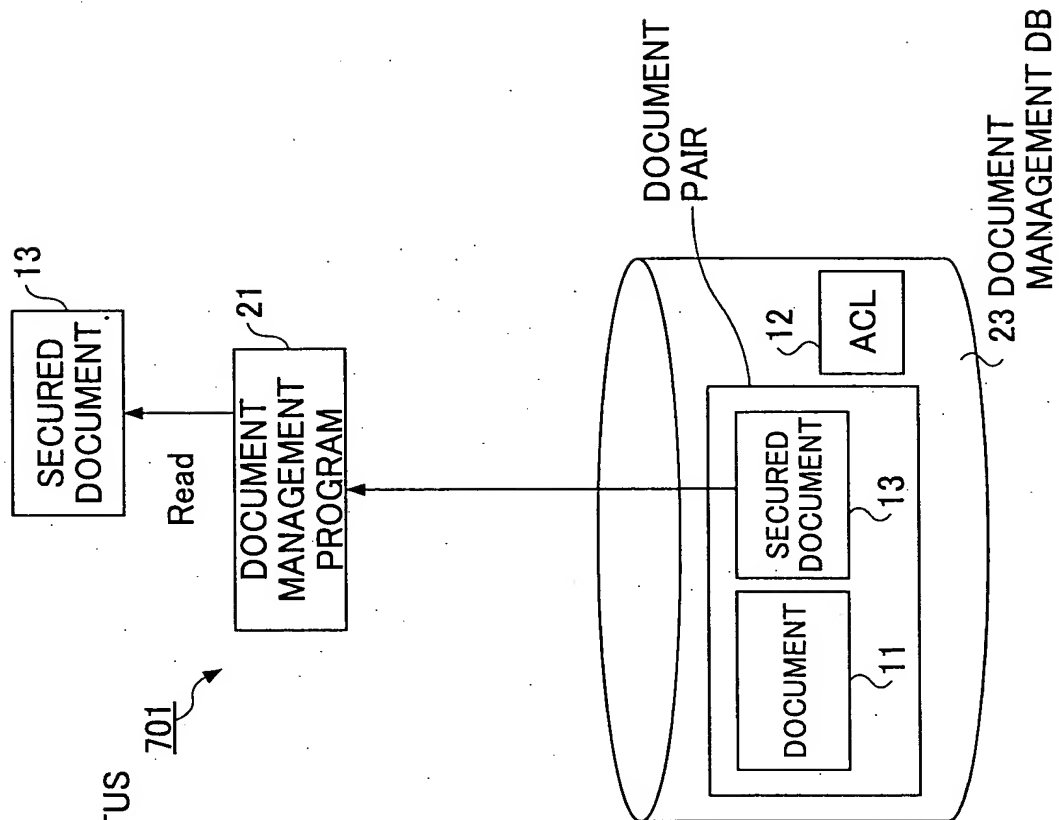


FIG.67

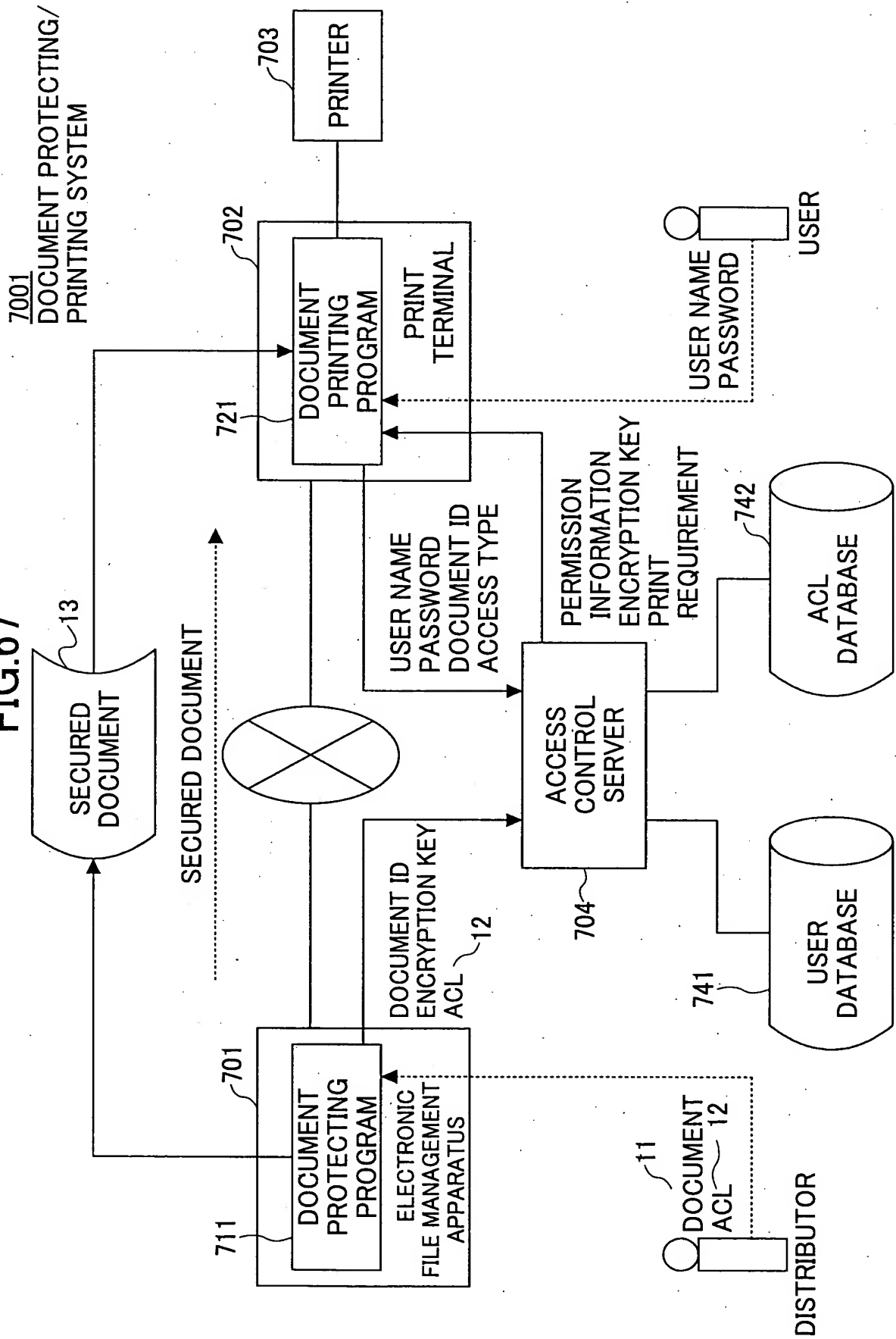


FIG.68

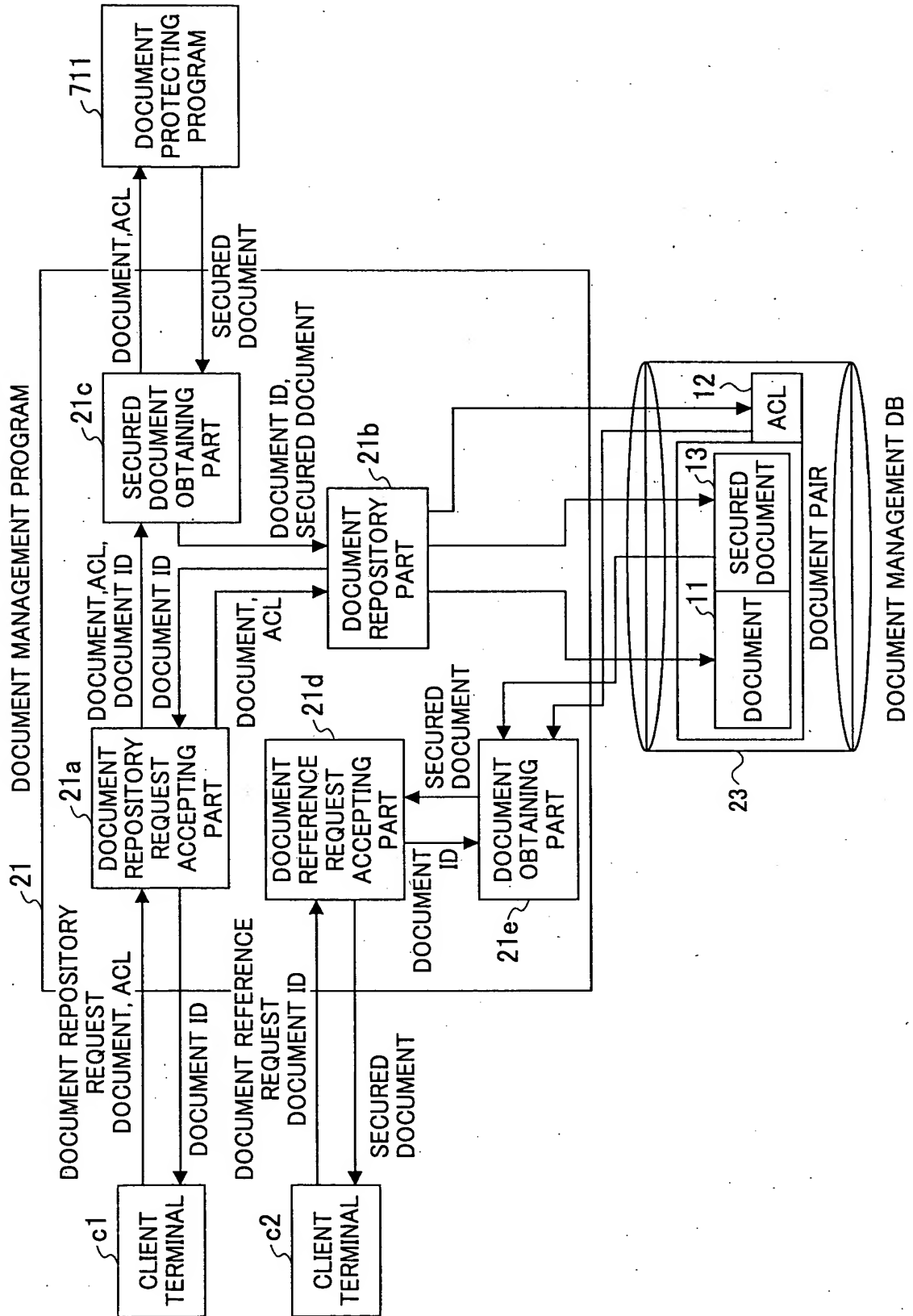


FIG.69

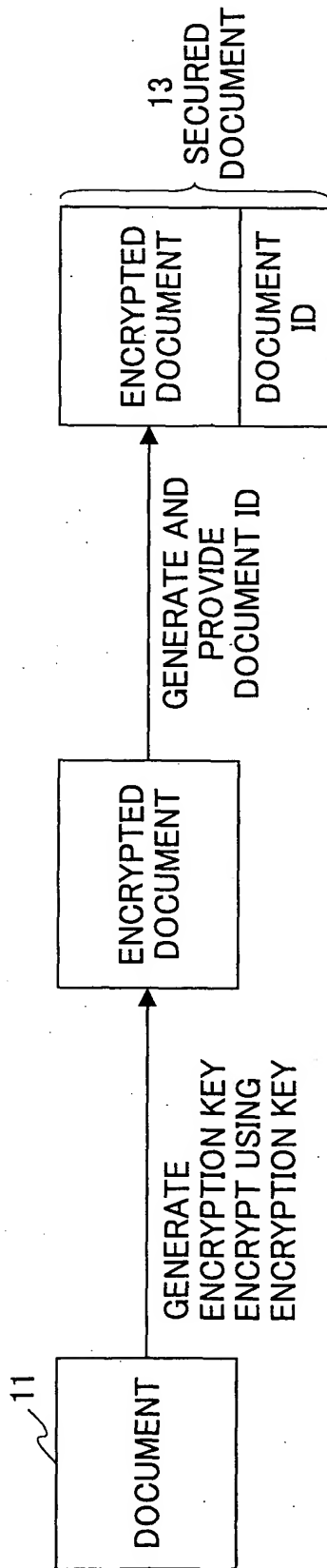


FIG. 70

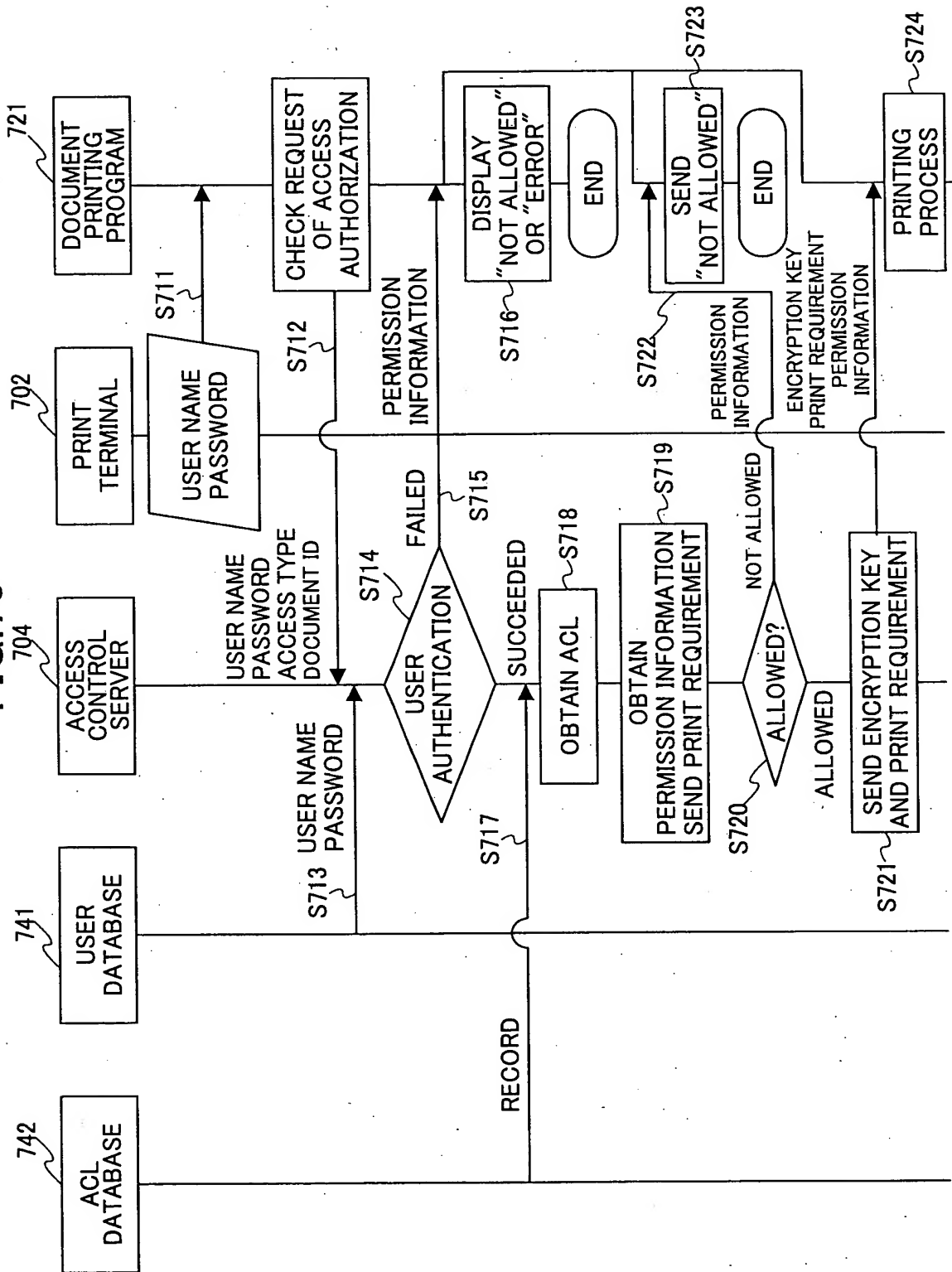


FIG. 71A

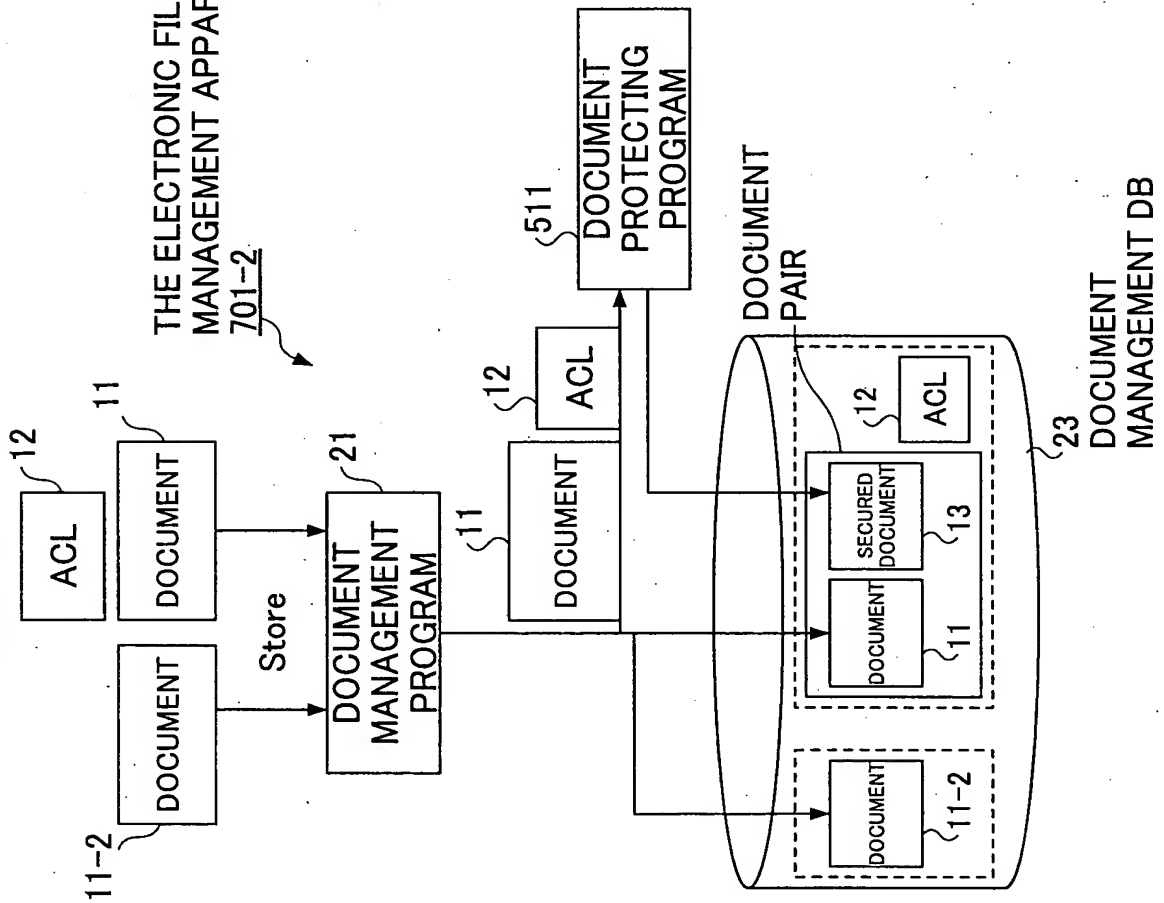


FIG. 71B

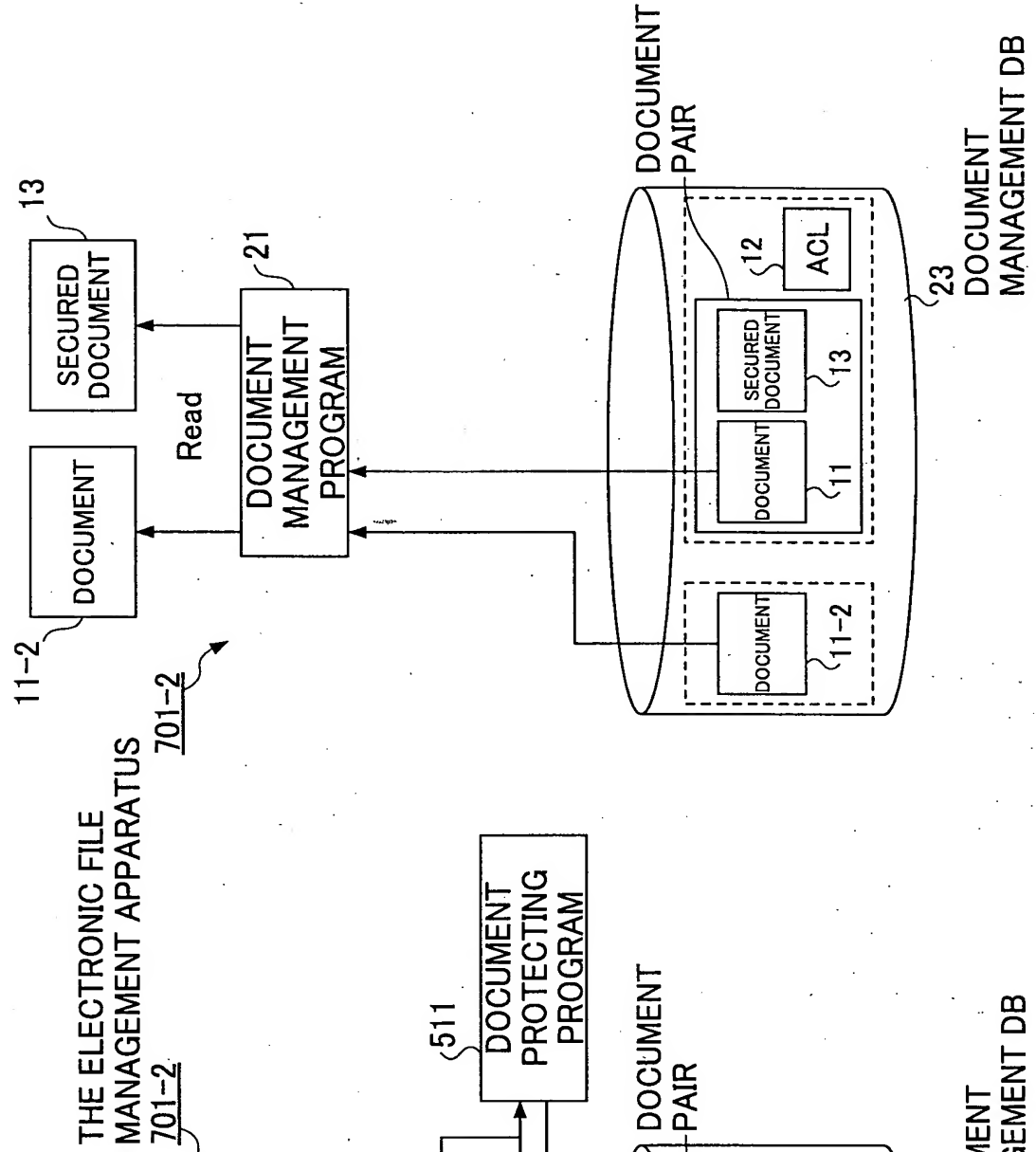


FIG. 72A

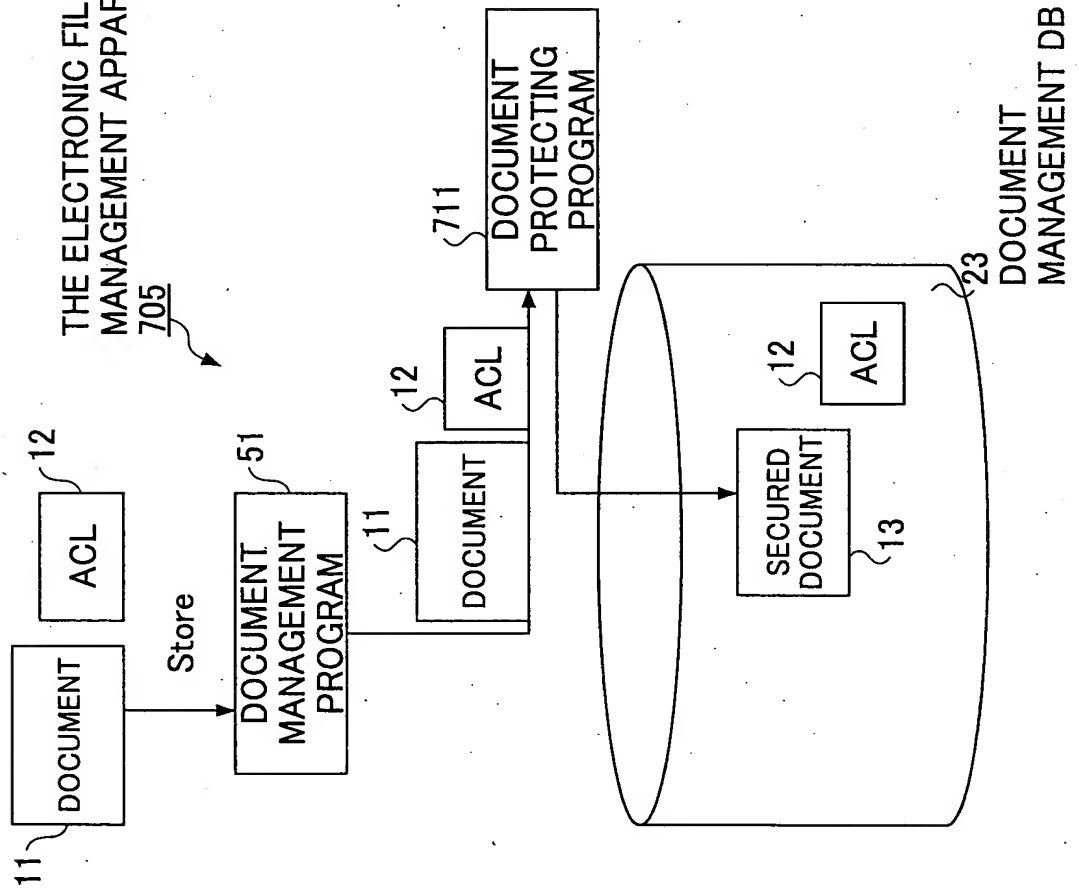


FIG. 72B

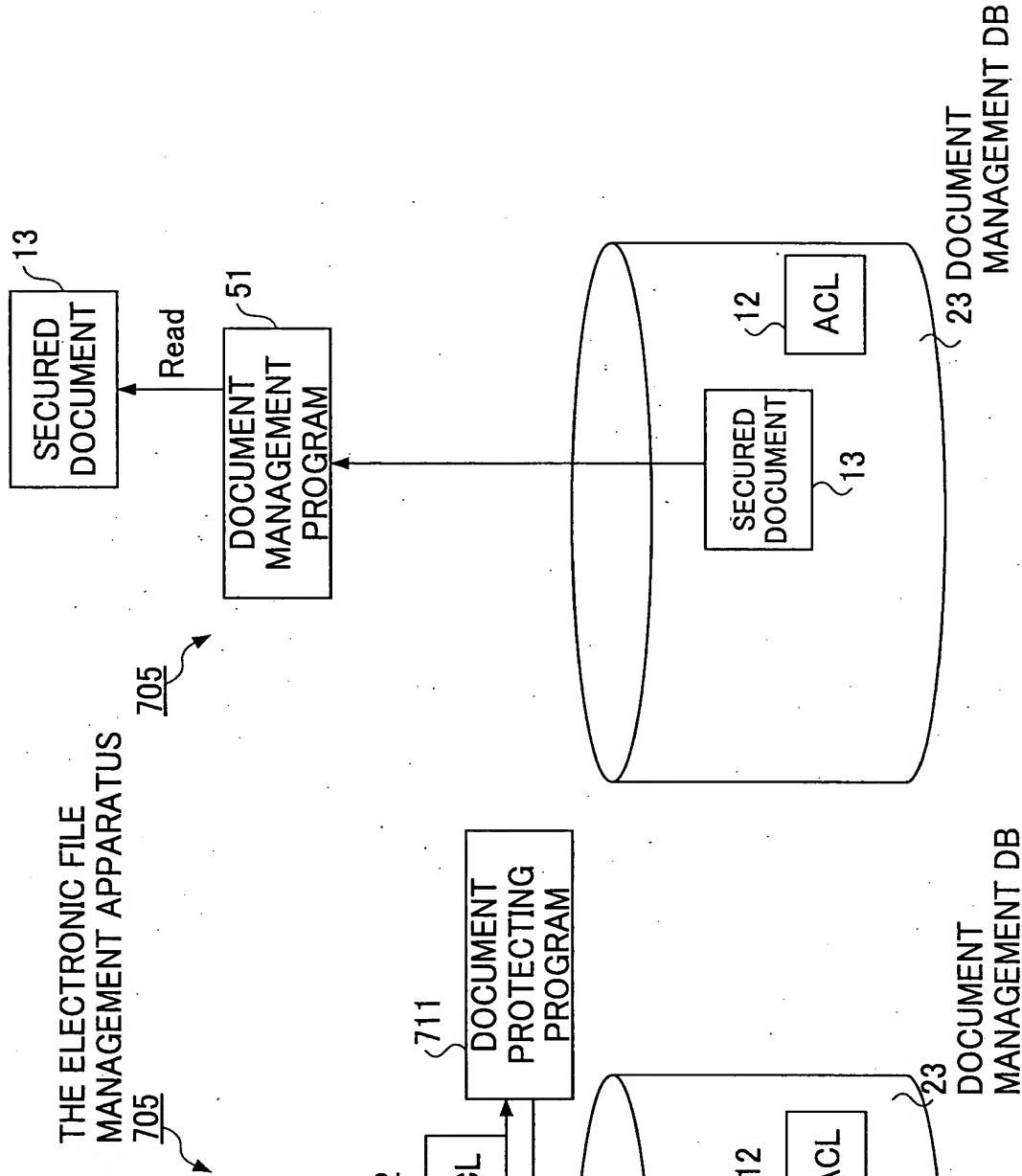




FIG. 73A

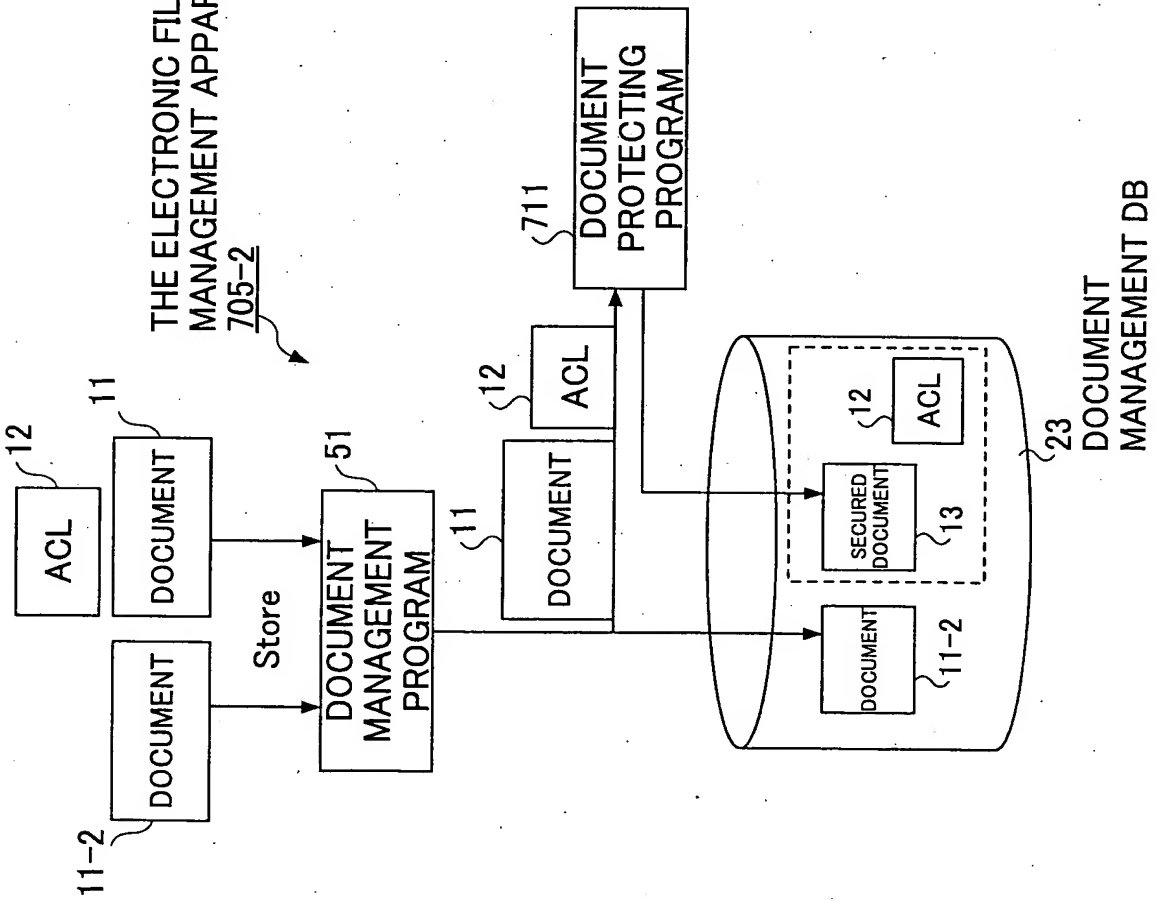


FIG. 73B

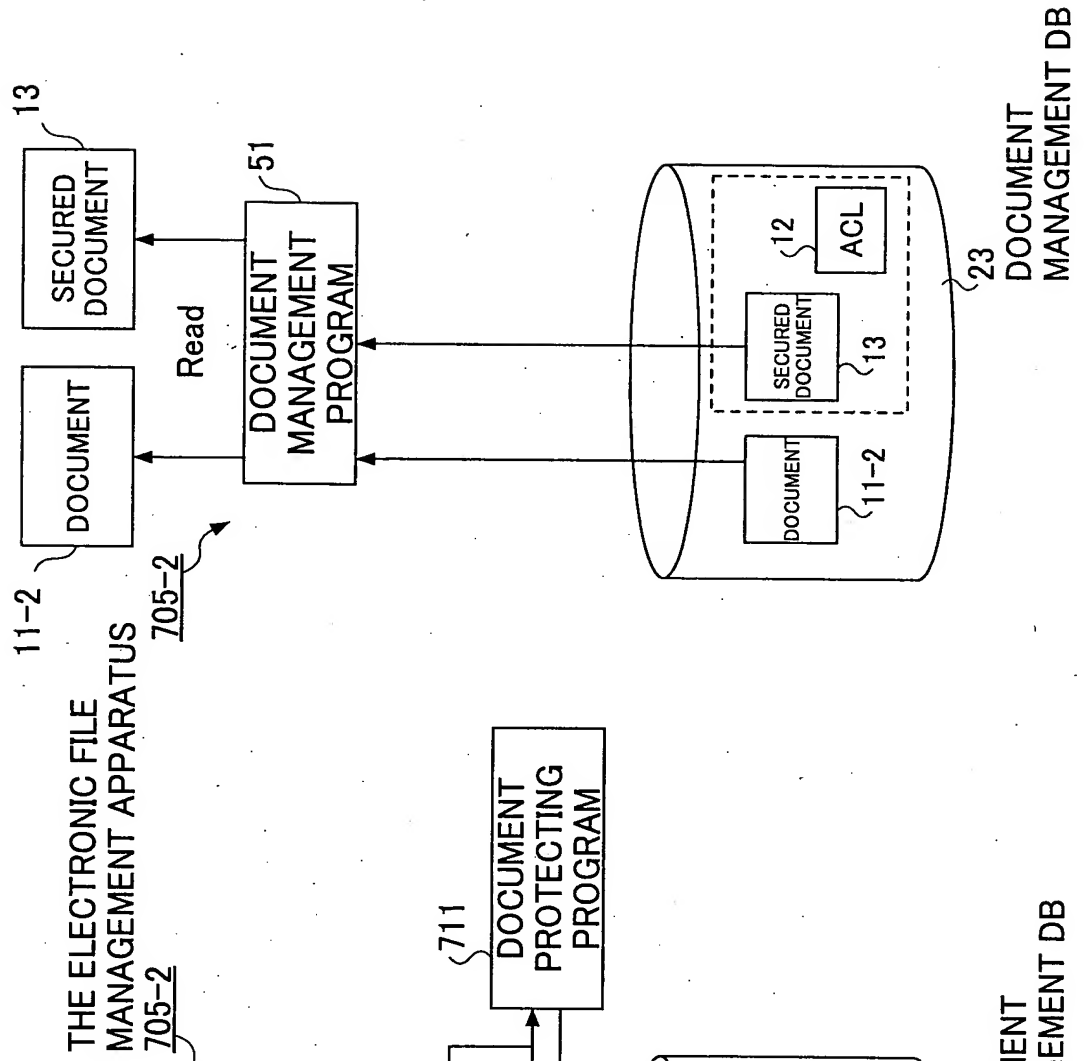


FIG.74

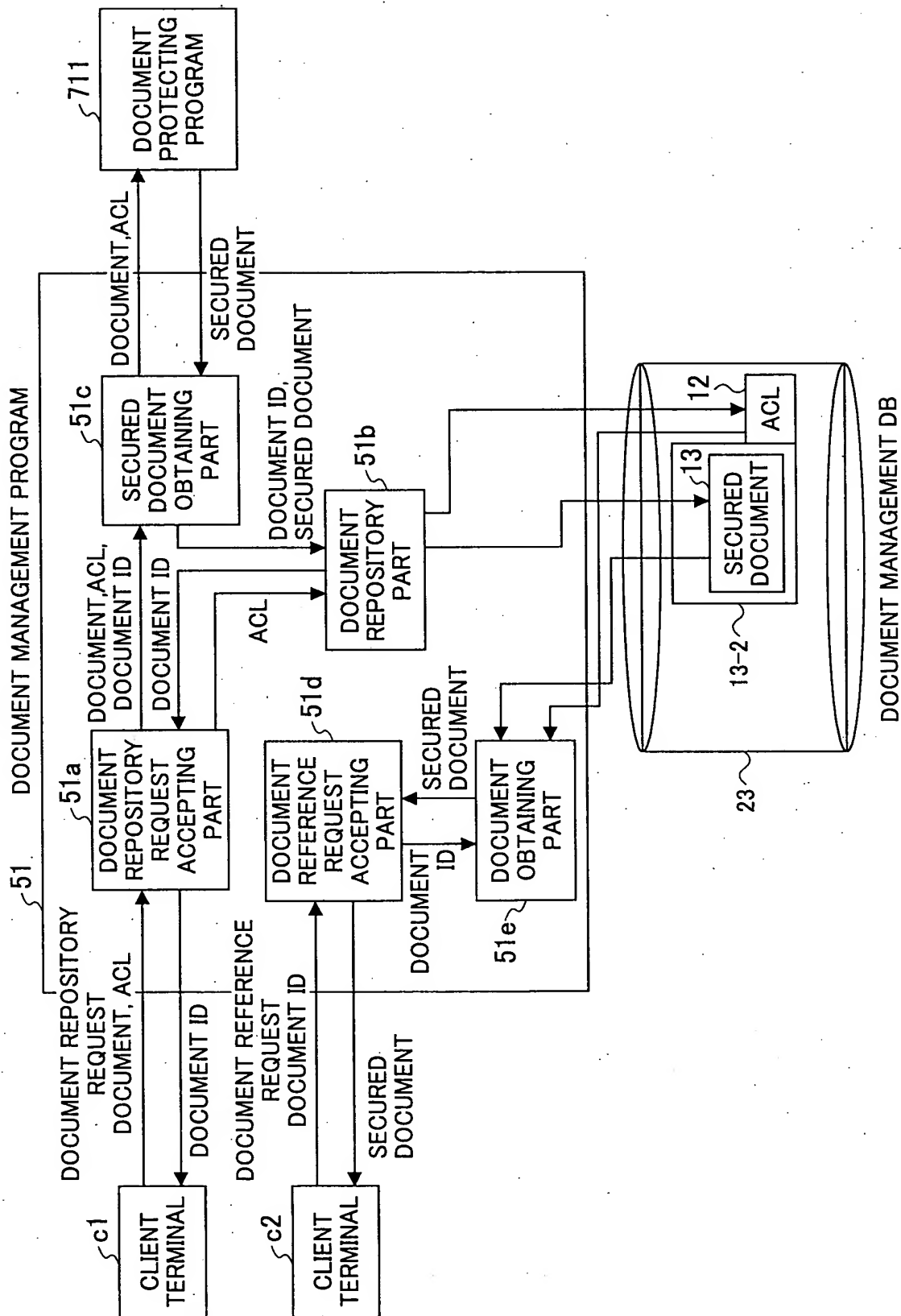


FIG. 75A

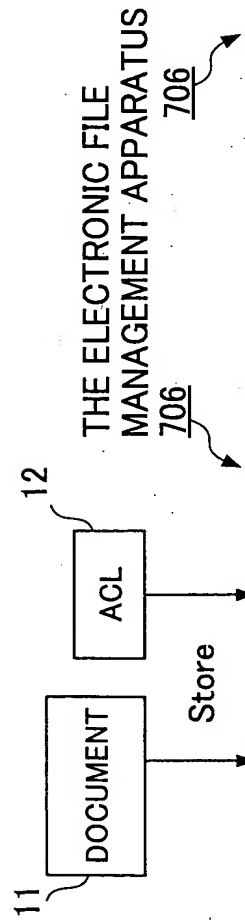


FIG. 75B

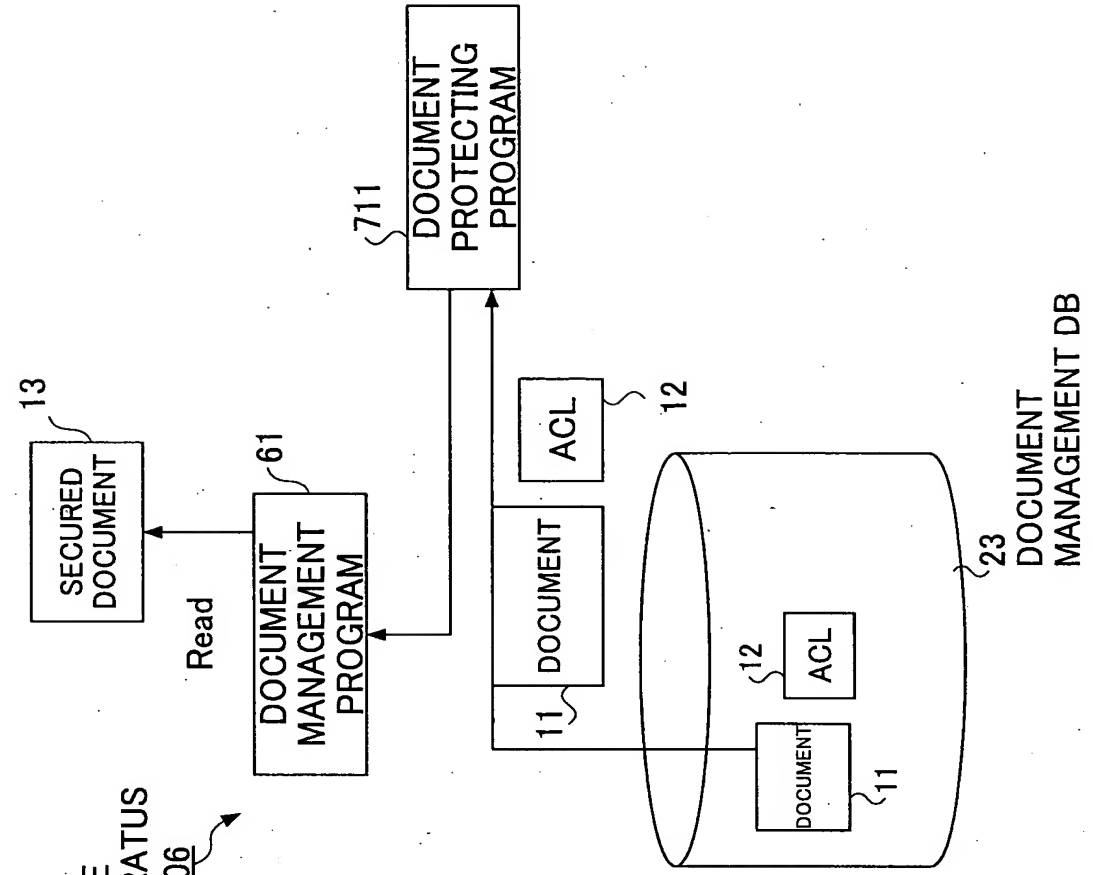


FIG. 76A

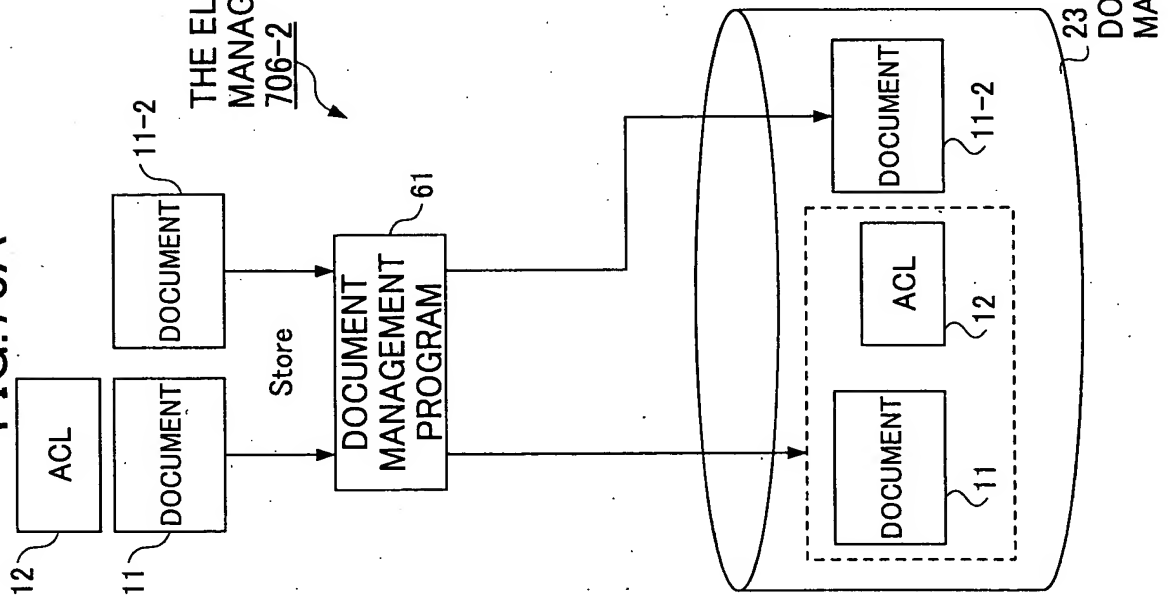


FIG. 76B

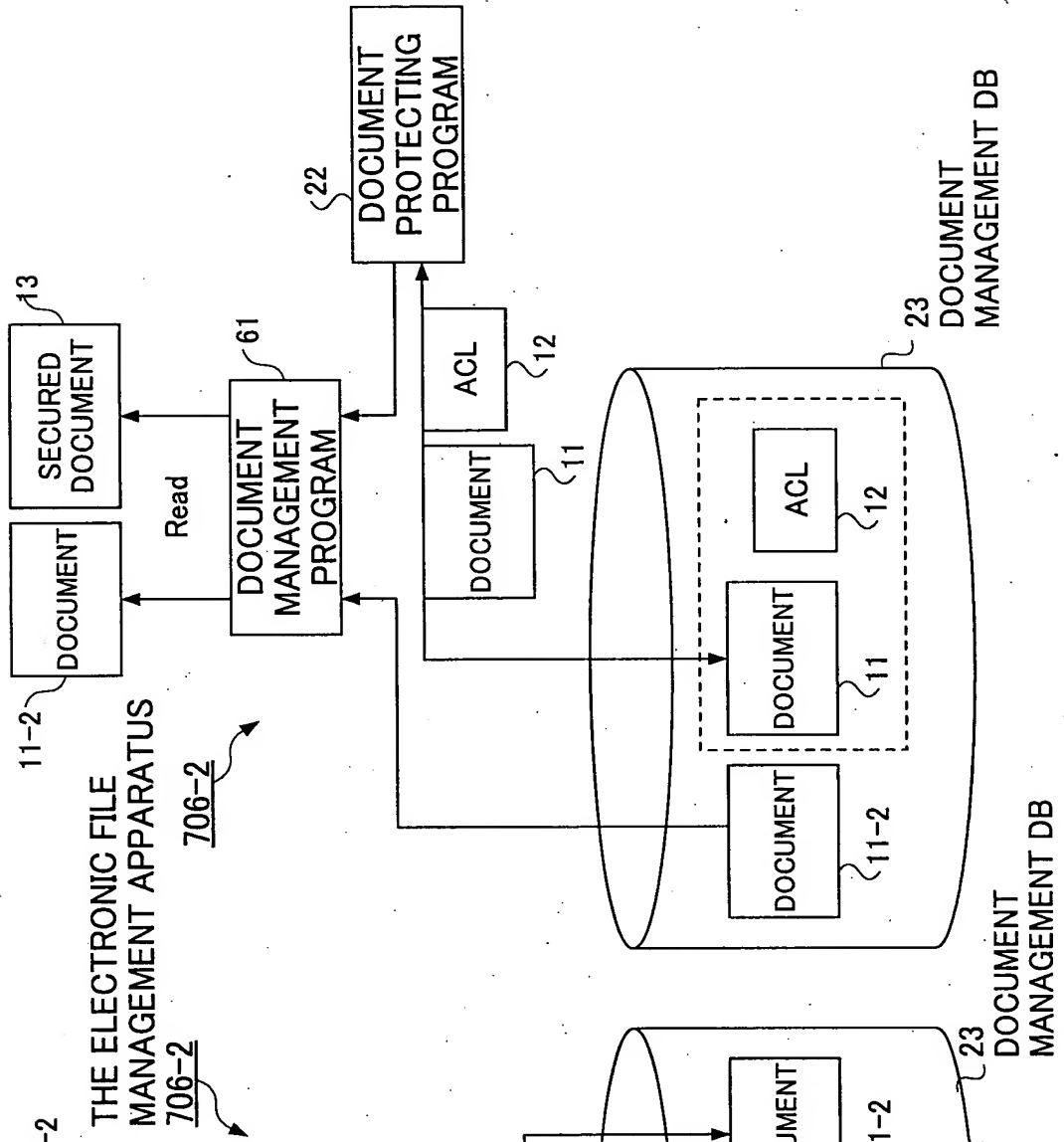


FIG.77

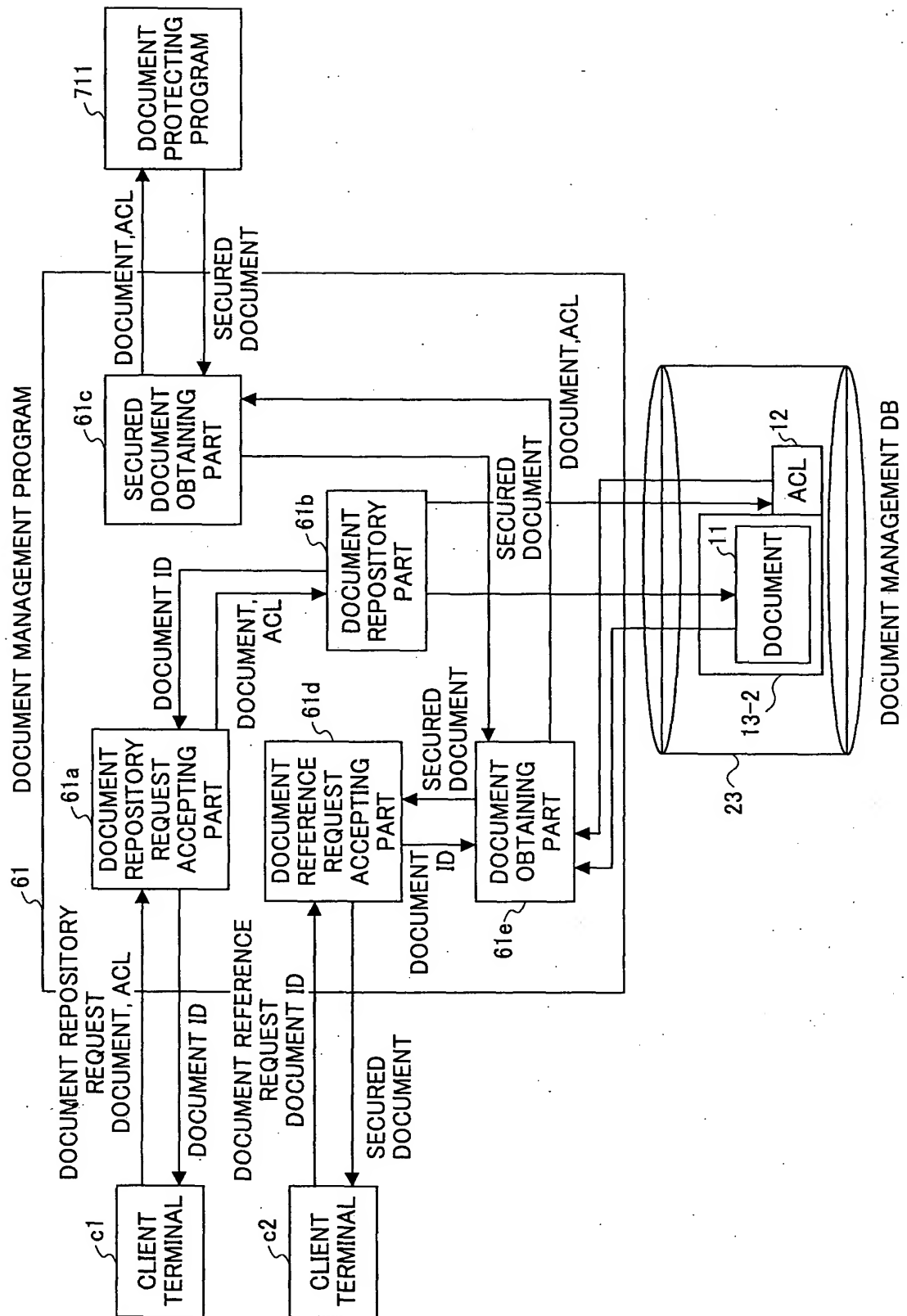


FIG. 78A

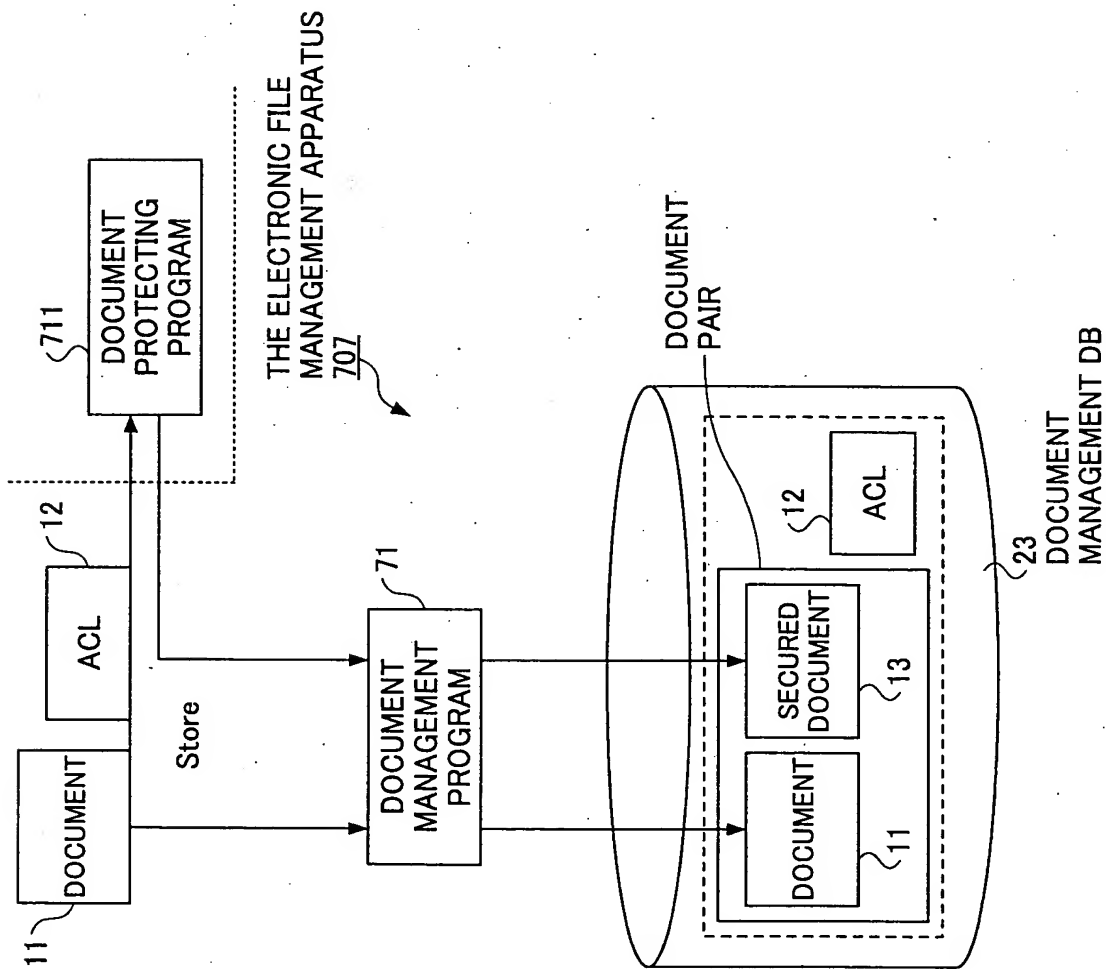


FIG. 78B

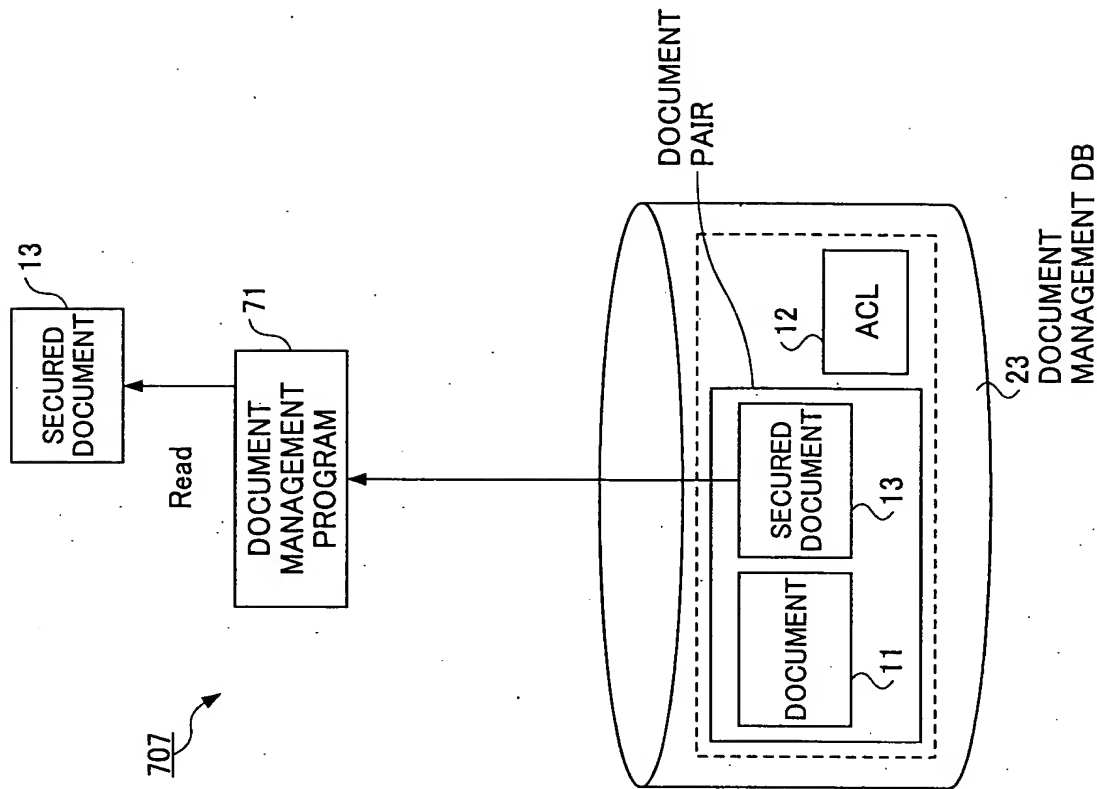


FIG. 79A

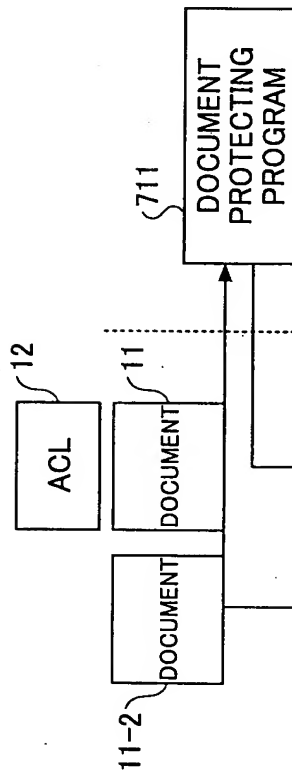


FIG. 79B

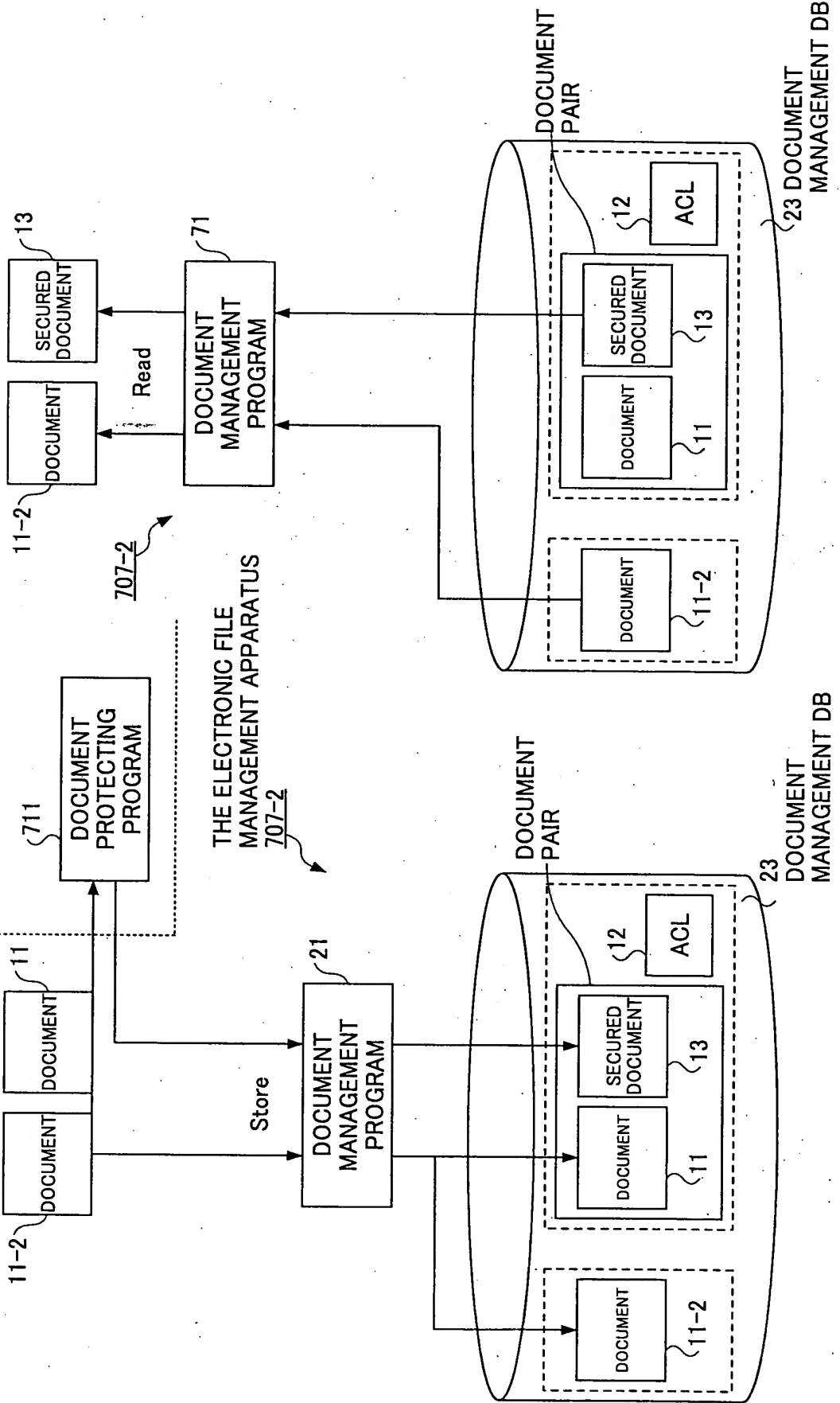






FIG.81

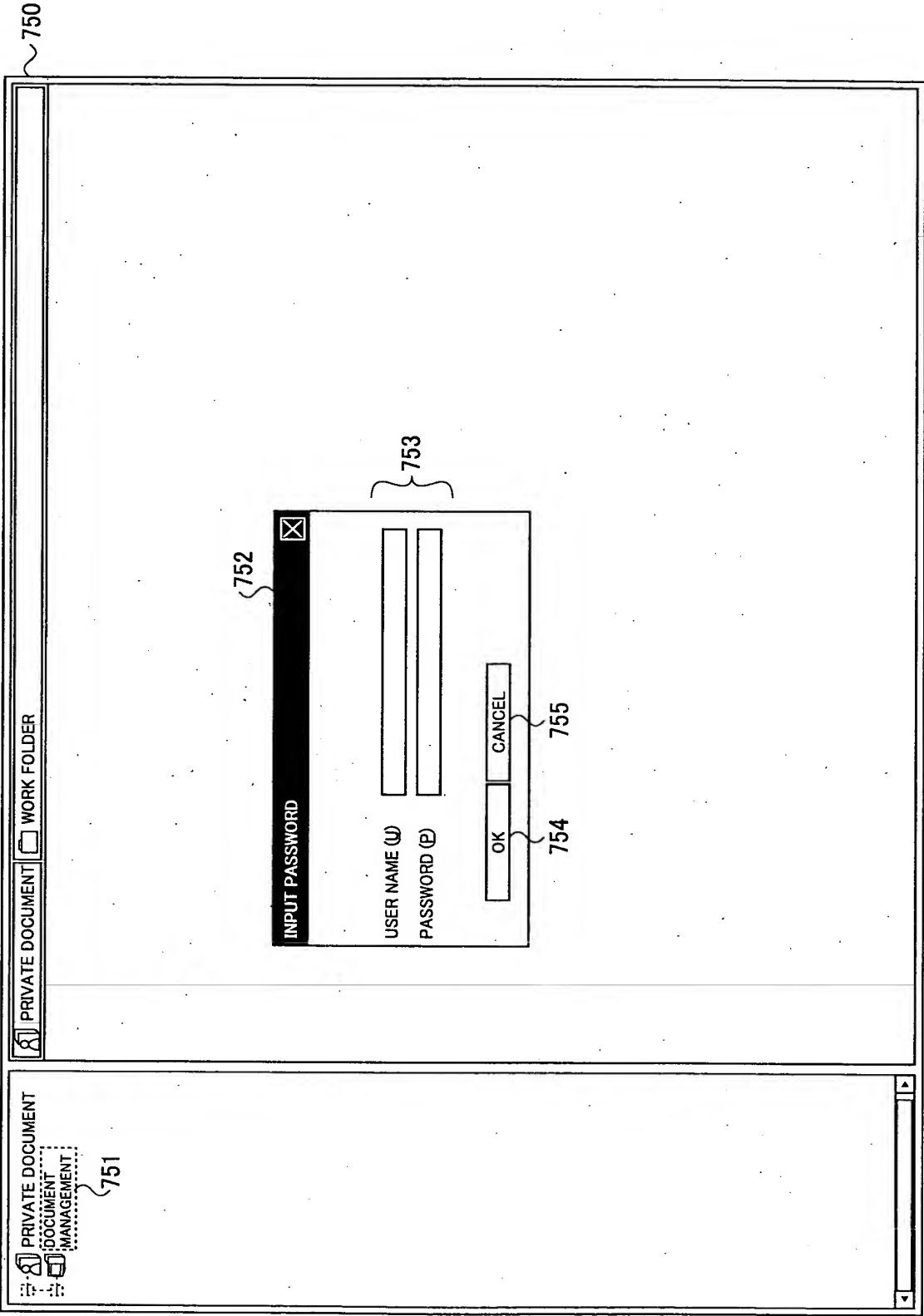


FIG.82

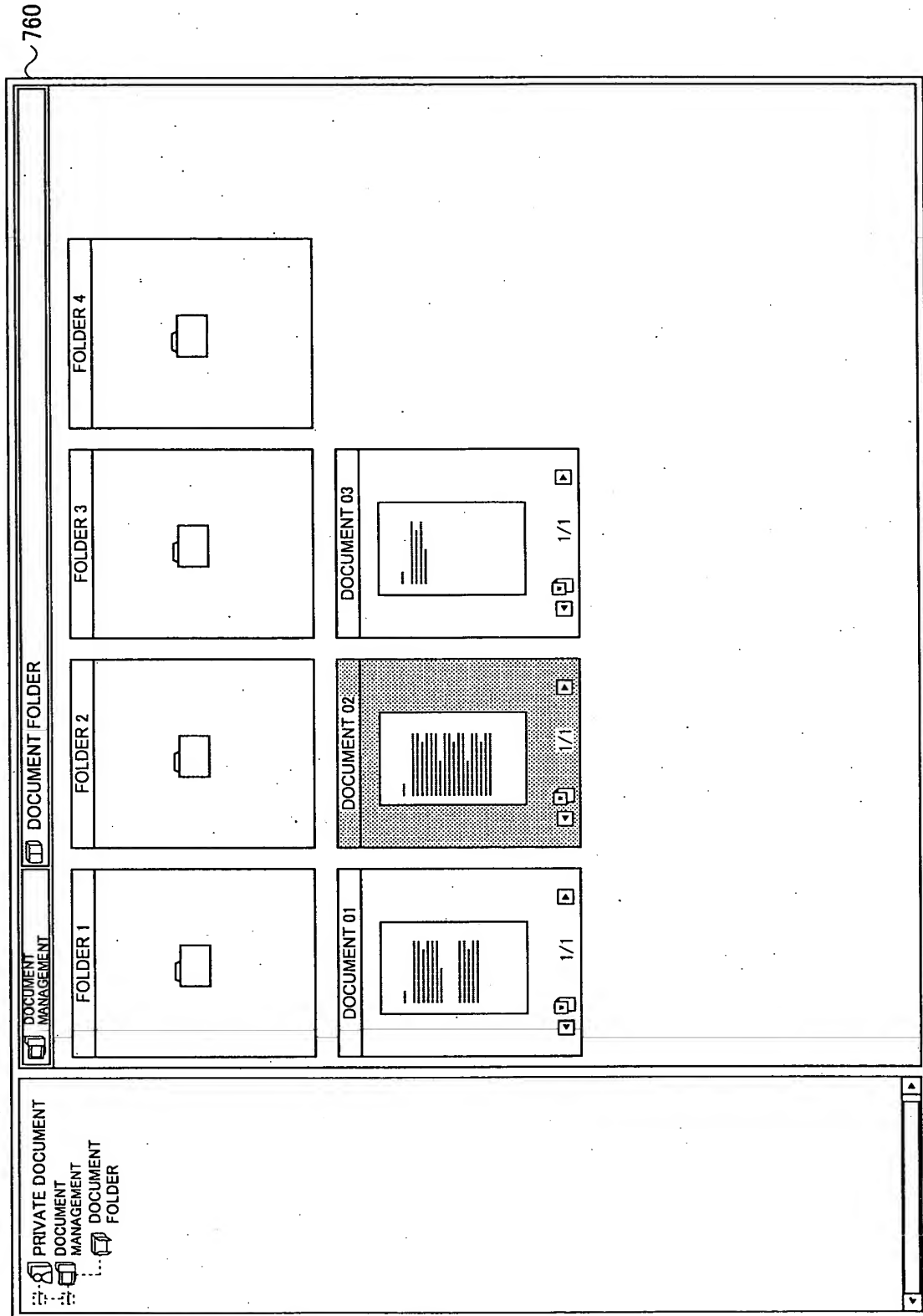


FIG.83

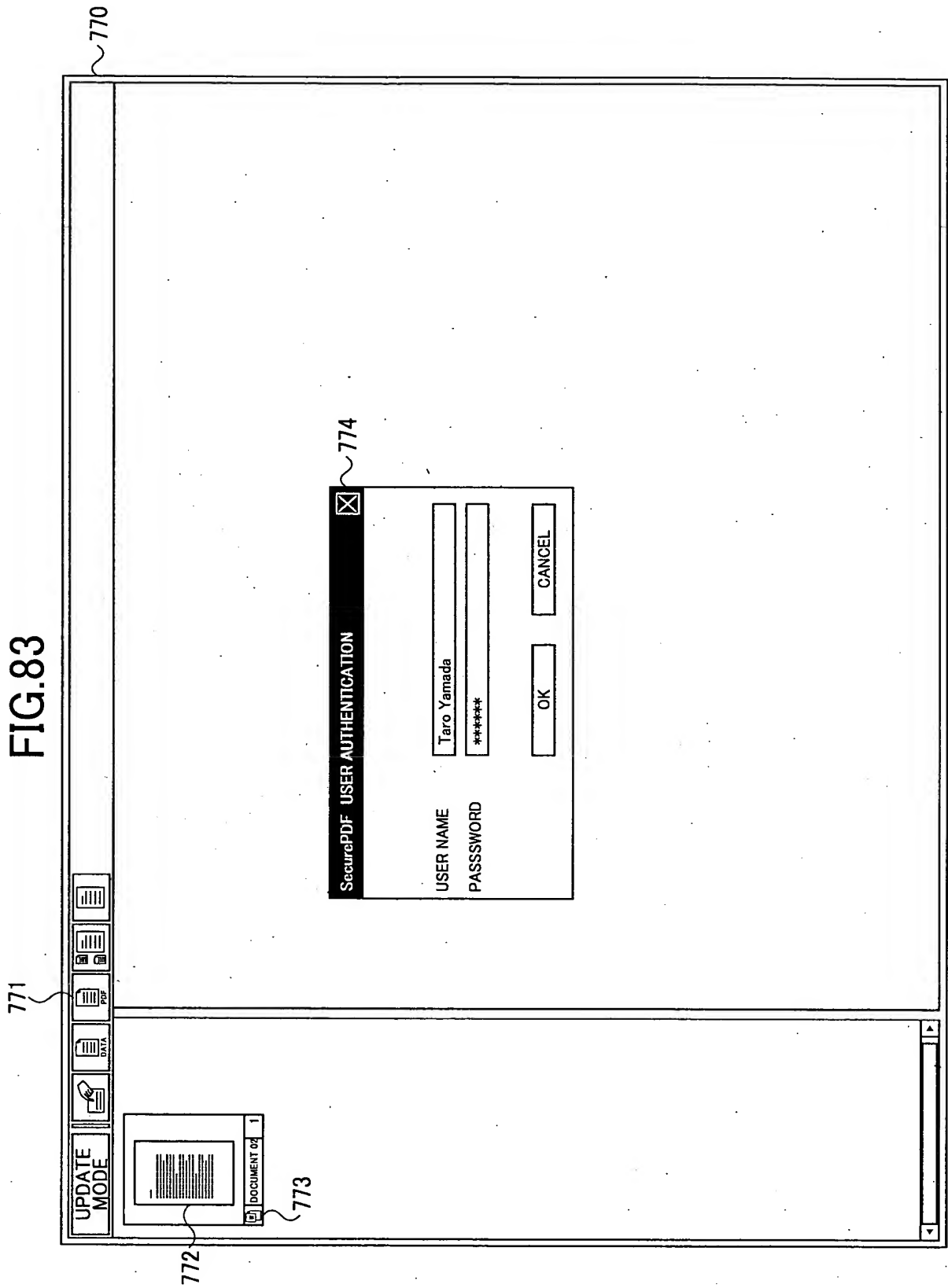


FIG.84

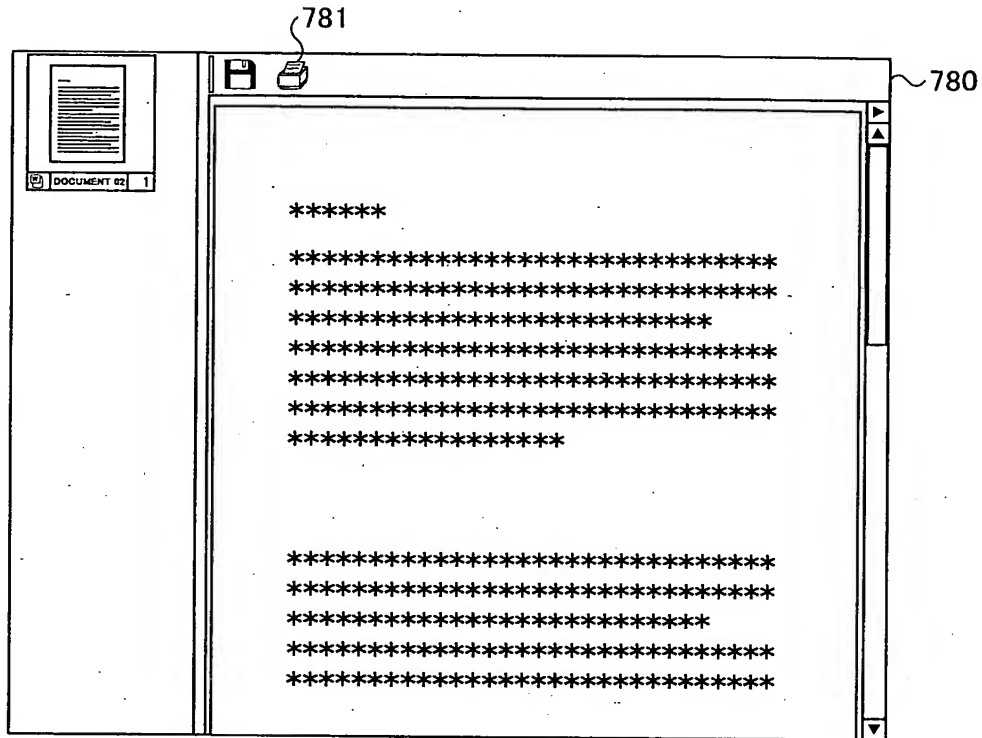


FIG.85

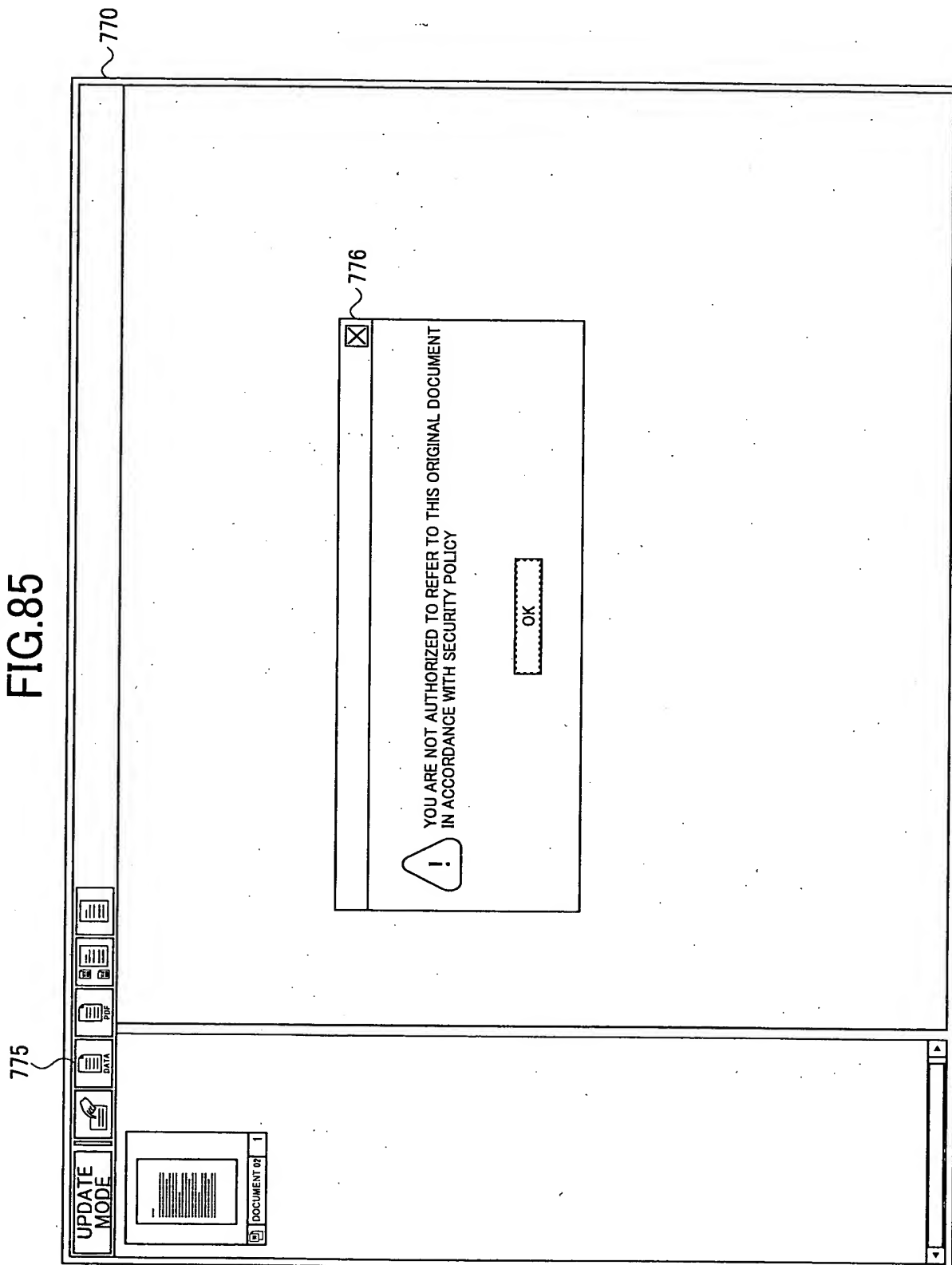


FIG.86

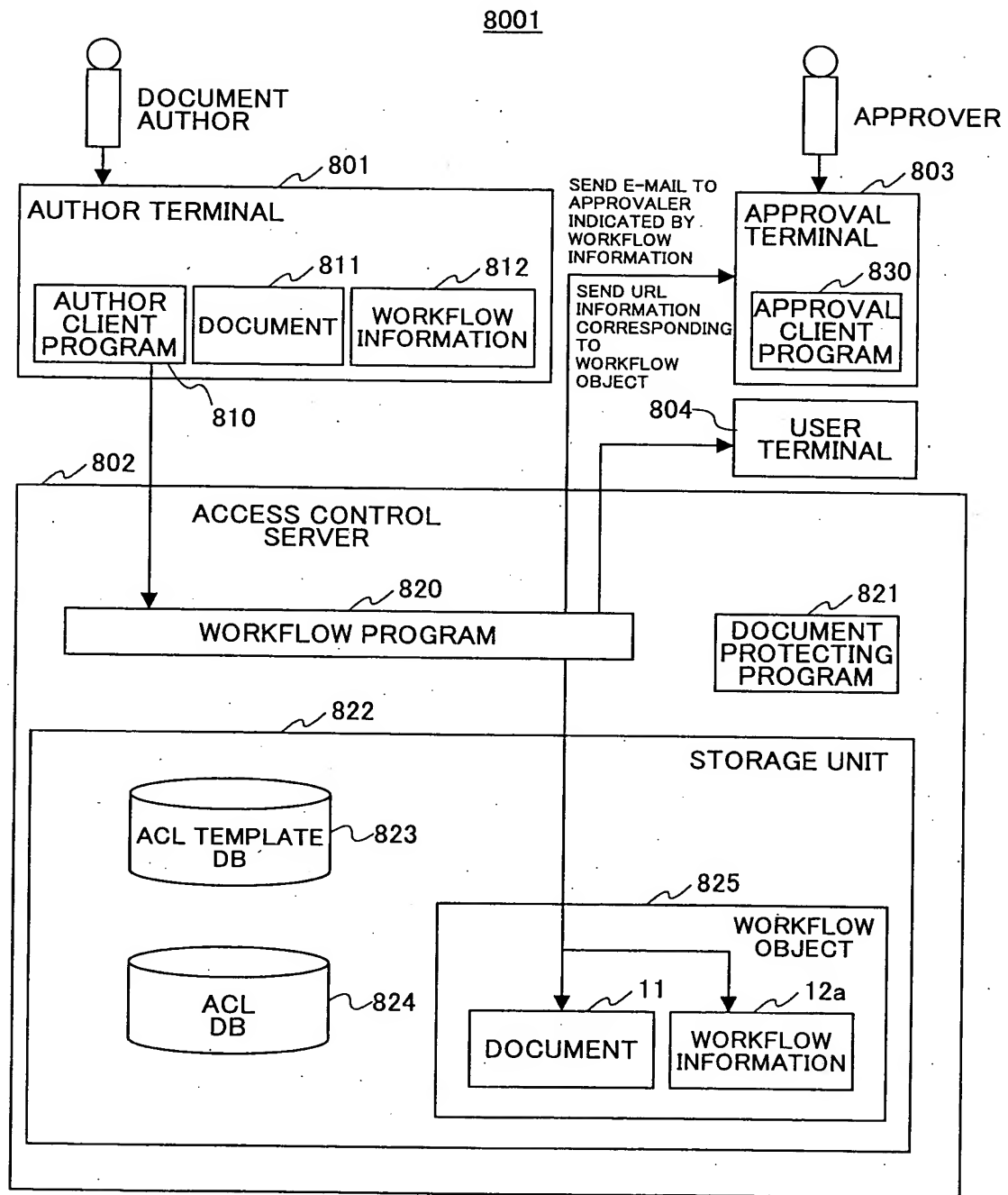


FIG.87

FILE CREATING SCREEN	
FILE TITLE:	Development of a new security sysytem
FILE TYPE:	<input checked="" type="checkbox"/> RESEARCH_PLAN
AUTHOR:	auther_00@office.com
FILE CONTENTS:	<div>file</div> <div>theme_explanation.doc</div>
DISTRIBUTE: TO:	user_10@office.com, user_11@office.com, user_20@office.com, user_21@office.com
APPROVER:	approver_01@office.com
APPROVAL REQUEST	

FIG.88

FILE NAME	Development of a new security system
FILE TYPE	RESEACH_PLAN
AUTHOR	<u>author 00@office. com</u>
APPROVAL	<u>approver 01@office. com</u>
FILE CONTENTS	theme_explanation. doc
DISTRIBUTE TO	<u>user 10@office. com</u> <u>user 11@office. com</u> <u>user 20@office. com</u> <u>user 21@office. com</u>



FIG.89

```
<?xml version="1.0" encoding="UTF-8"?>
<workflow_info>
  <id>011237835</id>
  <title>Development of a new security system</title>
  <doc_type>RESEARCH_PLAN</doc_type>
  <status>wait_for_approval</status>
  <author>author_00@office.com</author>
  <approver>approver_01@office.com</approver>
  <distribute_to>user_10@office.com</distribute_to>
  <distribute_to>user_10@office.com</distribute_to>
  <distribute_to>user_10@office.com</distribute_to>
  <distribute_to>user_10@office.com</distribute_to>
</workflow_info>
```

FIG.90

8002

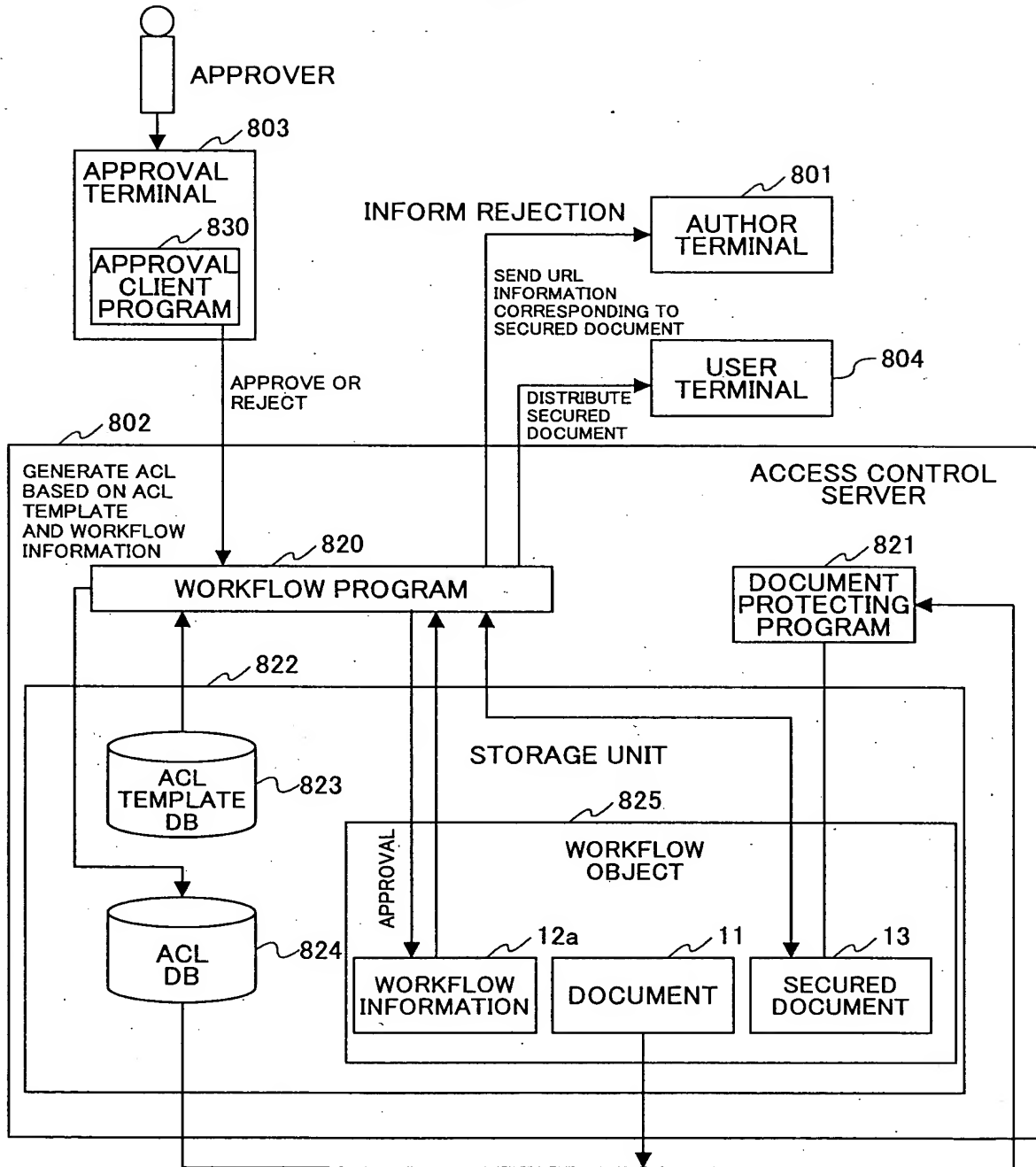


FIG.91

User type	Access type	Permission	Requirements
author	Read	Allowed	-
	Write	Denied	-
	Print	Allowed	PAC(Private Access)
	Hardcopy	Allowed	-
approver	Read	Allowed	-
	Write	Denied	-
	Print	Allowed	PAC(Private Access)
	Hardcopy	Allowed	-
distribute_to	Read	Allowed	-
	Write	Denied	-
	Print	Allowed	PAC(Private Access)
			BDP(Background Dot Pattern)
			EBC(Embedding Barcord)
			RAD(Record Audit Data)

FIG.92

User type	Access type	Permission	Requirements
author_00@office.com	Read	Allowed	-
	Write	Denied	-
	Print	Allowed	PAC(Private Access)
	Hardcopy	Allowed	-
approver_01@office.com	Read	Allowed	-
	Write	Denied	-
	Print	Allowed	PAC(Private Access)
	Hardcopy	Allowed	-
user_10@office.com	Read	Allowed	-
	Write	Denied	-
	Print	Allowed	PAC(Private Access)
			BDP(Background Dot Pattern)
			EBC(Embedding Barcord)
	Hardcopy	Allowed	RAD(Record Audit Data)
user_11@office.com	Read	Allowed	-
	Write	Denied	-
	Print	Allowed	PAC(Private Access)
			BDP(Background Dot Pattern)
			EBC(Embedding Barcord)
	Hardcopy	Allowed	RAD(Record Audit Data)
user_20@office.com	Read	Allowed	-
	Write	Denied	-
	Print	Allowed	PAC(Private Access)
			BDP(Background Dot Pattern)
			EBC(Embedding Barcord)
	Hardcopy	Allowed	RAD(Record Audit Data)
user_21@office.com	Read	Allowed	-
	Write	Denied	-
	Print	Allowed	PAC(Private Access)
			BDP(Background Dot Pattern)
			EBC(Embedding Barcord)
	Hardcopy	Allowed	RAD(Record Audit Data)

FIG.93

Document type	Security attributes	
	Category	Sensitivity
RESEARCH_PLAN	Technical	Medium
GENERAL_CONTRACT	Contract	Basic
TOP_SECRET	General	High